

Marine Corps

JAN 1957
FORTY CENTS

Gazette



1957

Marine Corps Gazette

JANUARY 1957

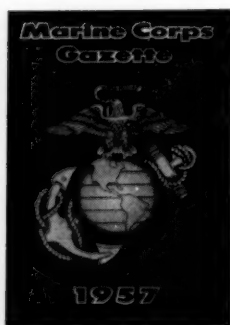
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THIS MONTH AND NEXT The new year, 1957, shows indications of being fraught with changes and events of significance. In keeping with the spirit of changing times, this month's cover is a change in itself. To kick off the "new look" as well as satisfy those who claim they can never find a copy of an authentic, official Marine Corps emblem except on the Commanding Officer's bulkhead, the emblem on the cover is as authentic as the Uniform Board can produce.

Because of an unavoidable delay, the Editorial Board was unable to select the winning manuscripts in the 1956 Prize Essay Contest in time for one of them to make this

issue. The winners, however, are listed on the back cover. Next month the first of the prize essays will be published along with a great many other articles of interest in today's changing world of military ideas.

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Membership in the Association is open to all members and honorably discharged former members of the Armed Forces of the US. Dues in the Association are \$4.00 per year and members receive the journal of the Association the MARINE CORPS GAZETTE monthly. The MARINE CORPS GAZETTE, copyright 1957 by the Marine Corps Association, Marine Corps Schools, Quantico, Va. is entered as second-class mail, privileges authorized at Quantico, Va., and Baltimore, Md. Editorial, Business offices: Marine Corps Schools, Quantico, Va. Editorial telephone—4780; Business—5750; Bookshop—4749. Subscription rate, \$4.00 per year; single copy, 40 cents. Articles, photographs, book reviews and letters of professional interest are invited. If accepted, these are paid for at prevailing space rates. It is requested manuscripts for articles be submitted in triplicate, double spaced, with ample margins. Material may not be reproduced without permission. Picture credits: all pictures official Department of Defense photos unless otherwise credited.

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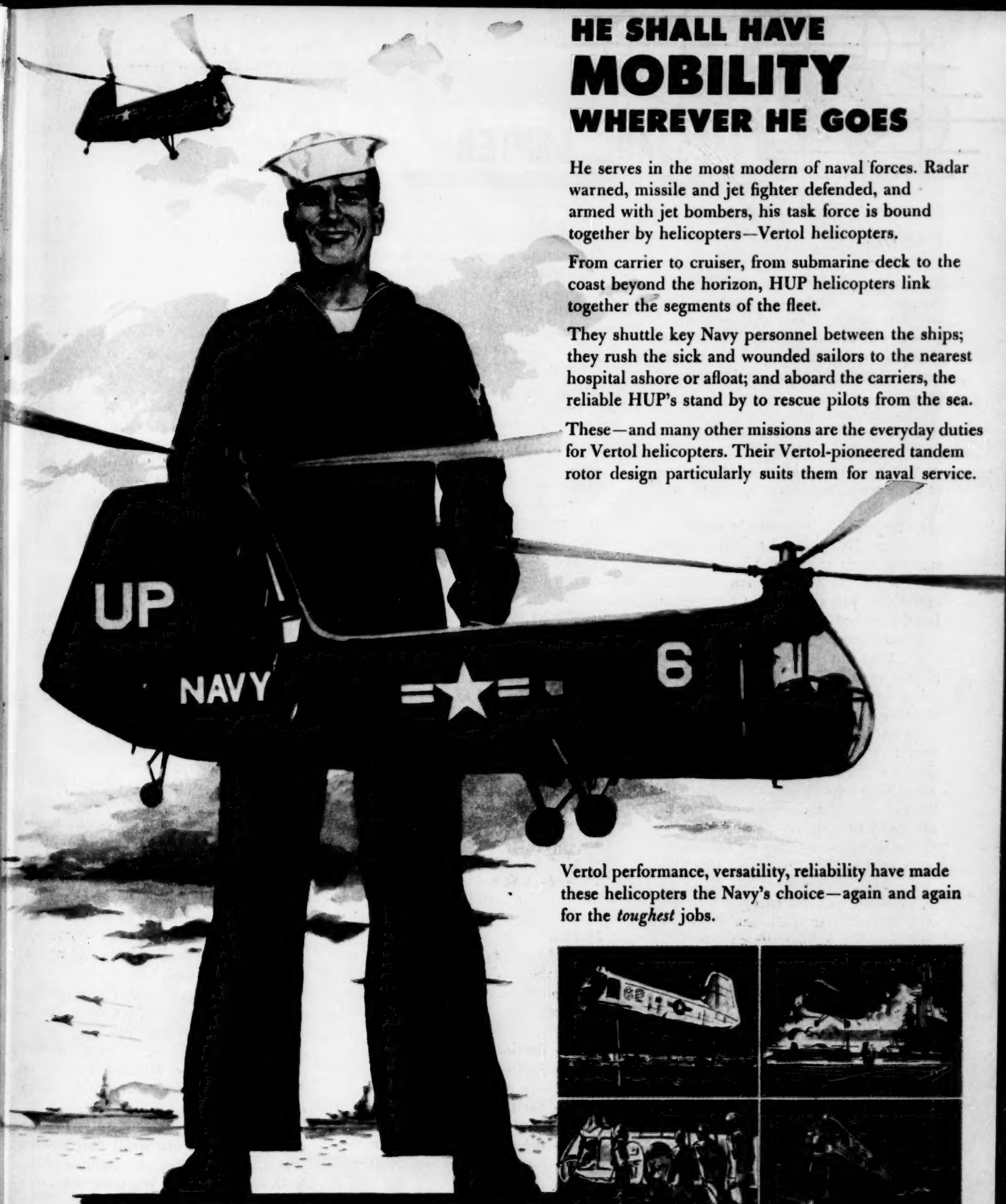
HE SHALL HAVE MOBILITY WHEREVER HE GOES

He serves in the most modern of naval forces. Radar warned, missile and jet fighter defended, and armed with jet bombers, his task force is bound together by helicopters—Vertol helicopters.

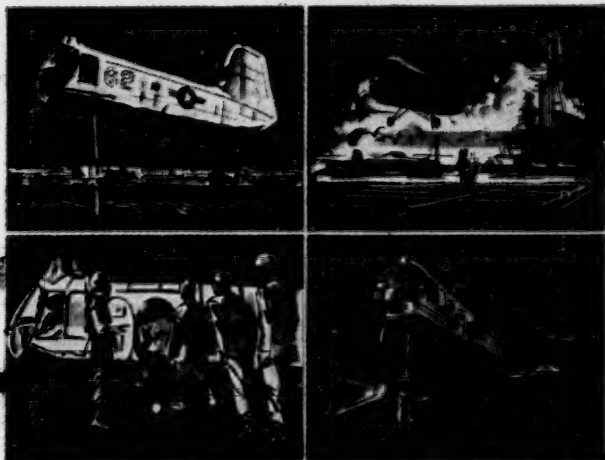
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MESSAGE CENTER

Aye, Aye!

... In our unceasing efforts to maintain and, if possible, augment the prestige of noncommissioned officers in their own eyes and in those of their juniors, I believe it might be useful to require greater formality on the part of subordinate enlisted men when speaking to and of them.

Why, for example, should a Pfc be entitled to address his sergeant simply by a last name, as "Hey, Daly!" or reply to instructions from his gunnery sergeant in such terms as "Okay, Hackman; will do!"?

In my opinion, it would be more conducive to NCO prestige and separate status if there were prescribed forms of address for use between non-rated men and NCOs just as there are between enlisted men and officers.

I therefore suggest:

1) That any junior enlisted man be required to address and refer to any other enlisted man of higher rank, by the title of his rank.

Example: A private answering a question from a sergeant would say, "Yes, Sergeant," or "No, Sergeant," rather than just plain "Yes" or "No," or "Yes, Jones," etc. For the sake of simplicity, all ranks of sergeant or above (except first sergeant or sergeant major) could be addressed and spoken of as "Sergeant."

2) That orders from an NCO to a subordinate be acknowledged by a modified form of our traditional, "Aye, aye, Sir" required among officers and for enlisted men when acknowledging instructions from an officer.

Example: A private acknowledging orders from a corporal would say "Aye, aye, Corporal," while the corporal, acknowledging orders from a staff sergeant (or any senior NCO except a first sergeant or sergeant major) would say, "Aye, aye, Sergeant."

I believe such forms of address could well be made mandatory (so that there would be disciplinary teeth to enforce them), and that the Recruit Depots and Training Regiments would be the place to start. I favor the practice as mandatory rather than customary, so that sea lawyers and wise guys can be compelled to comply by other methods than the strong arm of the NCO concerned.

I do not go as far as proposing exchange of salutes among enlisted men,

or requiring non-rated men to stand at attention in the presence of NCOs—both of which practices are followed in many foreign armies—but I think a bit of formality of address would do no harm at all.

COL R. D. HEINL, JR.

Washington, DC

Clouding the Issue

... In the Oct '56 *Observation Post*, there is an article from Ft Benning, Ga., by Maj G. P. Averill, entitled *TAO and MarDiv*.

In reading the article, I noticed that the abbreviations of TAO, TAR, TACP, and TACP were used quite frequently, along with the more or less standard MOS and T/O. And on page 31 of the same issue, the abbreviations JOC, FSCC and SAC are used.

Now I may be in the dark or slightly obsolete, but I had quite a time trying to find out what TAO, TAR, TACP, JOC, FSCC and SAC mean. No doubt there are many more of us in the lower pay grades who are in the dark when it comes to deciphering these codes.

I think it would be to the reader's advantage, and the author's advantage, if the abbreviations were used as a complete name somewhere in the first part of the article or just before the abbreviation is to be used for the first time, to familiarize those of us who don't understand what is meant by FSCC or the TAR.

SGT FRANK K. BURKE

3d Mar Div

Ed: Sgt Burke's point is well taken and in the future we shall endeavor to define an abbreviation when we use it. To clear the record, the abbreviations above mean:

TAO — Tactical Air Observer

*TAR — Tactical Air Request net
(a radio net)*

TACP — Tactical Air Control Party

JOC — Joint Operations Center

SAC — Supporting Arms Center

*FSCC — Fire Support Co-ordination
Center*

AAA D/S fr Inf

... Maj Valente's article in the Nov '56 *Observation Post* was a shot in the arm for the self-propelled anti-aircraft artillerymen. I would like to add that the M42 is an excellent weapon for close support of infantry but only if it is used properly.

The M42 isn't a tank and should never be used as a substitute for a tank. Although the M42 is built on the light tank chassis it has only light armor for protection against shell fragments and rifle fire. In addition it should always be kept in mind that the M42 is a full tracked vehicle with only one function—to carry the twin 40mm gun mount.

Since the M42 is powered by an engine designed for the heavier light tank it has a relatively high horsepower-to-weight ratio. Anyone familiar with the cross country mobility of this weapon can testify that it can follow the infantry over the most difficult terrain—even up a 60-degree slope!

I wholeheartedly agree with Maj Valente that the self-propelled M42 battalions should be organic to the Marine division. However, I believe that they should be placed directly under the division commander's control and not under the control of the artillery regimental commander. Since the primary mission of the M42 battalion should be for the close support of infantry, its rightful and logical control should come from the commander who directly controls the infantry elements of the division. Placing the M42s in the artillery regiment would add an unnecessary echelon of control.

MAJ C. R. LAPLANT

MCTC, Twentynine Palms, Calif.

Semper Fidelis

... Capt Murray in *Time for a Change*, in the Nov issue, speaks of the return of the limited war. The Korean police action, the very recent British and French intervention in the Egyptian-Israeli affair and other similar instances do indicate this trend. He hinted at the types of forces best suited for this kind of warfare. To carry his trend of thought further, we visualize elite units, highly mobile, hard hitting and self contained, fighting like professionals to accomplish an assigned mission.

The above characteristics are identified with Marine Corps combat units, and persons in the high places of leadership realize this. How can we insure that we shall be able to fulfill our destiny if this new scheme of things comes to pass?

We must look to the aggressiveness and efficiency of our small unit leaders, and to the discipline and training of the individual Marine. We must use every means at our disposal to foster the fighting team spirit that has ever been our hallmark and the Marine Corps will take its rightful place in the new era as the envy of, and model for all other professional fighting units of all nations.

MSGT C. V. CRUMB, FMCR
Milford, Del.

SPREADING THE WORD...

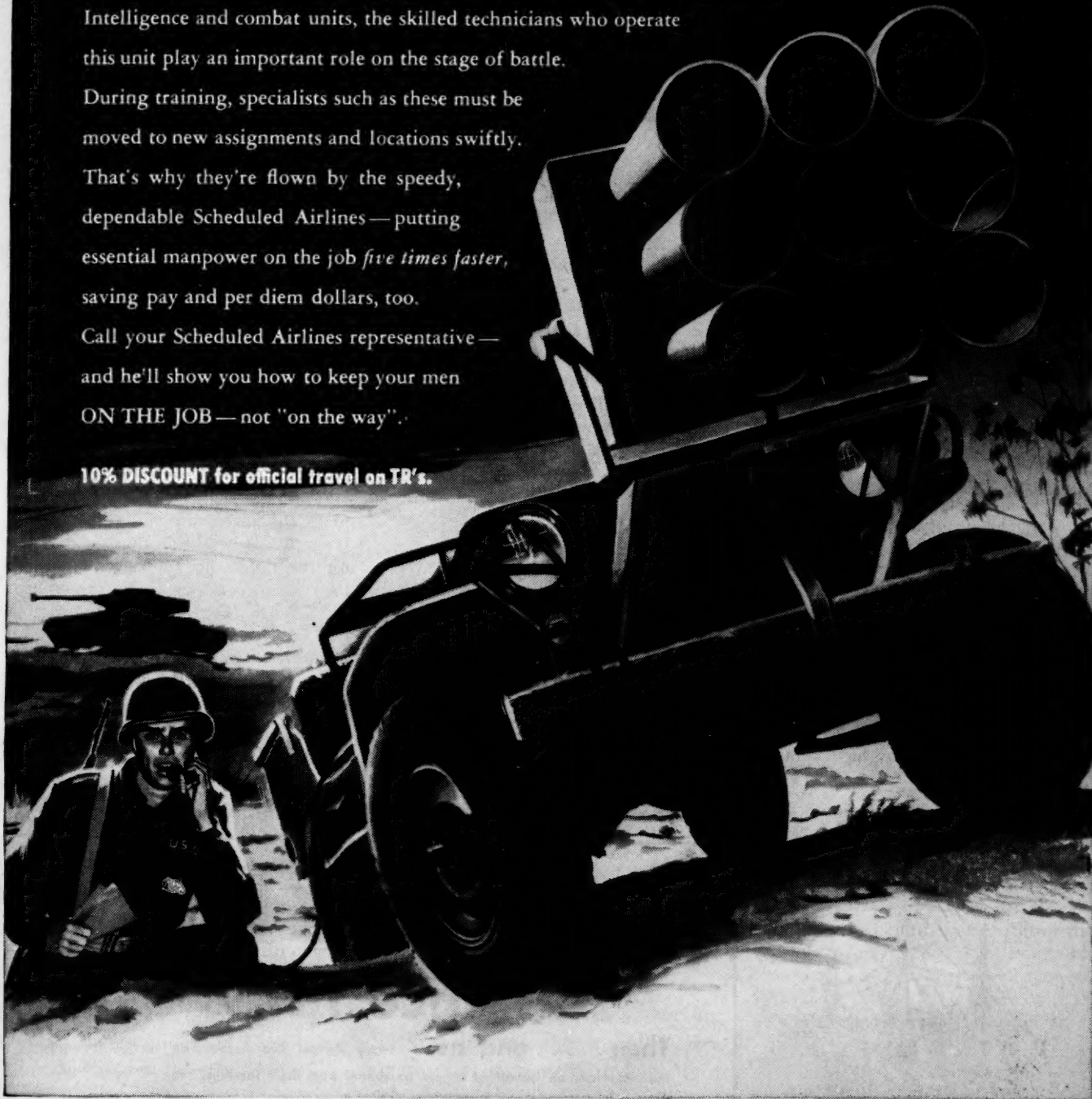
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Whoops!

... Your November issue was like old times—I enjoyed it immensely. After having devoured its most interesting articles, I suddenly stopped in wonder. Could it be that artist Dunlap miscued on the stars in the national colors depicted on the cover? The way it looks to me, one would have to assume that there are stars folded under in the lower left of the field (6 to be exact) which would make somewhat greater than the familiar 48. Still, a terrific issue.

LT COL C. E. WALKER
AFSC, Norfolk, Va.

ED: We have no defense against Colonel Walker, a former Editor and Publisher of the GAZETTE.

Lasting Impressions

... The 179th and 181st Anniversary issues of the GAZETTE have been some of the best in my opinion. And both issues have had "Excellent" articles by Col Heinl. Little is left to be said about *Special Trust And Confidence* except another "excellent."

The New and the Old by MSgt Crumb was another of his fine articles. I am glad to see that MSgt Crumb has not retired from his writing even though he is now retired from the Corps.

While attending NCO school at Camp Pendleton in '53, MSgt Crumb was one of the instructors and an excellent one. There are many who will remember his "Principles of Leadership" or the "Battle of the Cowpens during the Revolutionary War." He introduced himself as "MSgt Crumb" and informed us what a name like "Crumb" could cause during Boot Camp. His DI may have thought

he was a "Crumb" then, but I think the DI would agree now that that is one type of "Crumb" the Corps could use more of.

TSgt J. W. JAUNAL
MCRD, San Diego, Calif.



One Good Shot

... In regards to 2dLt Cornell's letter *Firepower* in December's GAZETTE, a few comments should suffice. One well-aimed shot will kill a man just as fast and effectively as 50. Who is going to haul all this extra ammo? You guessed it—the mud Marine.

CAPT A. C. SMITH, JR.
Quantico, Va.

Sacred 2 Up and 1 Back

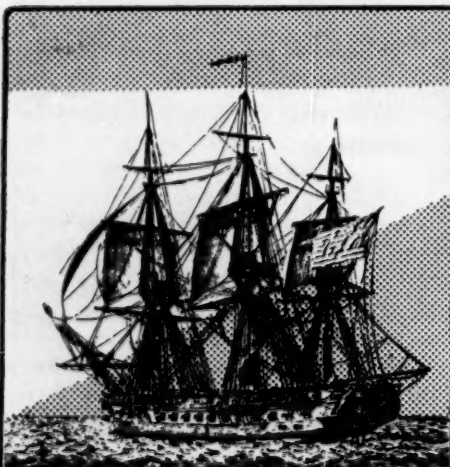
... I thought that *The Company and the Atom* was an excellent, thought-provoking article, but there was one point with which I disagree. Capt Fredericks says that it is hard to reconcile the company's offensive and defensive roles in the new "combat base." He describes the problem that arises when a patrol is

sent out. He can weaken the defensive position by sending a complete platoon or weaken the patrol by leaving part of the platoon to cover the platoon's section of the defensive perimeter. He suggests adding a fourth platoon to the company or a fourth company to the battalion.

I cannot see any advantages which could be gained by increasing the number of tactical units. In a company defensive position, why couldn't we assign defensive roles or positions to only 2 of the 3 platoons and use the third platoon in the role in which Capt Fredericks envisions his fourth platoon? As far as I know, there is no tactical doctrine which dictates that a perimeter defense must be composed of 3 tactical units. The idea of using a fourth tactical unit to do the patrolling suggests to me that we are becoming too rigid in our way of thinking. When we go on a company or a battalion problem, we get in the habit of putting the 3 tactical units in the defensive perimeter; then, when we have to send out a patrol, we have to take the men from our perimeter thereby weakening the perimeter. This is a problem, but one which we create for ourselves.

If it were necessary or convenient to place the three units in the perimeter for a period, we could prepare ourselves for the time when one of them would have to go on patrol by preparing a smaller perimeter inside of the original one. When the one unit went on patrol, the other 2 could withdraw into the interior perimeter which would be smaller and within their capacity to defend.

2dLT DAVID J. DUNN
1st Mar Brig, FMF



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Each Sunday Byron teaches a class for boys. Many evenings and week ends are devoted to Boy Scout work.

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Time Check

. . . Much has been written about punctuality, especially within the Marine Corps, yet it seems that within the last few years everything has a tendency to get started late. People don't seem to be able to do things on time anymore. It seems that we just can't "step off on the first beat of the music" anymore.

The troops are always a few minutes late in getting into formation for roll call, or else they are a few minutes late getting started on the afternoon training schedule. On the other side of the fence some officer is always late to a scheduled meeting, or the inspecting officer is sometimes a few minutes late in getting around to inspecting the barracks. As a result, collectively considered throughout the whole Marine Corps, an extreme amount of valuable time is being wasted. When several individuals have to wait for one, something is always lost or something always fails to be accomplished.

However, we cannot blame that situation on the troops. Such a problem can be effectively handled locally by the commanding officer. This writer has always taught that when a junior is to report to a senior, he should be on the spot 5 minutes before the required hour. When a senior is scheduled to appear before his juniors, he should appear at the exact time scheduled. As commanding officers, we can very easily apply sufficient pressure to return the word "promptness" to the habits of individual Marines. Let's do it!

MAJ N. W. HICKS

1st Mar Div, FMF

NCO Marks

. . . On change of a reporting senior it is required that officer fitness reports be submitted (Para 3018.4 "PRAM"). Yet for the ranks of sergeant and below no markings are required under the same circumstances. (Para 4006.4 "PRAM"). Granted, that it would create more of a burden on the administrative sections, but also it would most probably benefit the personnel and/or the Corps. If it is too large a task to include all ranks, at least include the sergeants who will be the future Staff NCOs.

1stLt W. L. LOWE

NATTC, Jacksonville, Fla.

Whirlaway

. . . Kudos to Capt J. G. Martz, III and the *GAZETTE* for *The Whirling Divergence*, the most imaginative, appealing, descriptive and appropriate title in ages. And the tightly-written, thought-provoking article was worthy of its name.

MAJ D. D. NICHOLSON

FMF, Pac

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NORWAY

By Lief Bohn

Photographs provided by the author

IT IS MORE THAN 16 YEARS AGO, but when I close my eyes I can see the scene as clearly before me as had it been yesterday: I stand in Karl Johans Gate, Oslo's main street. A silent crowd lines the street and down it marches the field grey columns of Hitler's Germany. I can hear their tramp, tramp in my ears. I had come from Finland the same morning by night train from Stockholm. I had been there all through the Winter War and since the Armistice, March 13th, I had concentrated on the Finnish problems in connection with the removal of the population from Karelia to new homes west of the new border. When we heard the news on the radio that the British

Navy had decided to mine Norwegian waters to stop the iron ore traffic from Narvik to Germany many journalists rushed for Norway assuming that hot news might be right around the corner. They certainly were so right.

When we woke up in the morning on the 9th of April, German bombers were circling overhead, but did not attack us. Some way or other we got into Oslo to find out what was really going on and there the field grey columns were already marching in, placing guards in front of the Parliament Building and taking control of the Palace. There was an eminent American journalist, Leland Stowe, among the observers during

those chaotic days in Norway. He wrote what he saw and his stories were not flattering for Norway. He had come from Finland which had made a well organized and heroic fight against an overwhelming intruder. Now he saw people with hands in their pockets lining the street, passive observers. We, the Norwegians, that day acquired what has been called "the 9th of April complex." I think it is true. We received an experience that day which is still deep in on our blood. We met with Hitler's laws and Hitler's order. I can tell you from experience that it was rather unpleasant. It may possibly be said that Norway deserved that unpleasant-

The first country bordering the USSR to join NATO, she is acutely aware of her military position today

ness. Claiming to be a sovereign country, it had for many, many years neglected its defenses. The Norwegian labor movement was for many years against any form of military defense and its leaders often claimed that it was sheer nonsense for a nation of only 3½ million people to spend money on an army and navy. This attitude was slowly altered, for during the Winter War in Finland the Norwegian workers changed their mind, but too late. Hitler's Norway "Blitz" was a tremendous success. Fighting went on for 60 days in northern Norway. There Norway had trained and mobilized forces that gave the Germans their first setback in the Second World War; but, seen from the German point of view, most of the fighting in Norway could be characterized as mopping-up operations.

If Norway became the object of a military attack today there would be all-out resistance from the first minute. In all military offices in Norway you will find a framed written order on the wall which states that if some power by force violates Norway's territory it shall be met with military resistance. Any order that resistance shall not take place shall be regarded as false and it is the duty of officers and men to fight even though the situation looks hopeless.

Norway was the first country bordering Soviet Russia which entered NATO, the membership was and is backed by all political parties except the Communists, 3 men in Norway's 150 member strong *Storting* (Parliament).

We have gone a long way since we acquired that 9th of April complex. This is the strange story of our trip.

An underground army comes into existence.

At the last meeting of the Norwegian Parliament, before it had to flee from the advancing German troops, the decision was made that "resistance shall continue, if necessary outside the borders of Norway." The nation in this way ordered the King and government to go to London to organize new military forces.

Of the Norwegian merchant marine, 90 percent was in free waters. The Germans never obtained control of these 6 million tons of ships which included the most modern tanker fleet in existence. That fleet was the financial base of our government in exile.

In Norway organized resistance ended June 6th (after the frightful German advance into the Netherlands, Belgium and France) but arms were hidden in considerable quantities. Norway, cut by fjords and deep valleys, great mountain ranges and deep forests, is a country which is very difficult to keep under military control. As a matter of fact there is a mountain district on the west coast, totalling 30,000 square kilometers, where the Germans never put their jackboots and where Norwegian military training went on the whole time! When the Germans finally decided to clean up this district in April 1945, they were met with such opposition that they gave up the job. The district is situated in the Masfjorden mountains north of Bergen and the resistance group there was named "Bjørn West."

To organize an underground army is a tall order and, of course, many mistakes were made at the start. The *Gestapo* and *Sicherheitsdienst* were continually on the track of possible resistance leaders and many had to leave the country, crossing the North Sea in small boats or making their way through the forests to neutral Sweden. Many were arrested and tortured by the enemy. Some took their lives to avoid interrogation.

I think it may be said that the Norwegian people were not mentally prepared for war when Germany attacked in 1940. They were slow to see the consequences of German occupation, but once they had seen the light, no orders, restrictions, torture, jails or shooting could stop them. When someone fell there was always another to take his place. Good co-ordination with the Norwegian and Allied military leaders in London was maintained. The Allied HQ knew that, if necessary, they could call on this underground army for immediate action. The policy was to lie low, organize, train and prepare

for co-operation with the liberation forces. Sabotage, liquidation of dangerous informers, etc. was left to special groups trained for the job. One special group which carried out very dangerous and vital work were the 200 radio operators keeping secret contacts with UK. They had to move very often. Two of these radio operators made possible the sinking of the German battleship *Scharnhorst* off North Cape as they kept the British Navy informed when the *Scharnhorst* put to sea in the pitch-dark December night. In 1943 the USA joined Britain in furnishing supplies for the Norwegian underground army which at the end of the war had grown to 45,000 men. 13,000 parachutes bringing arms and equipment were dropped over Norway. Drop areas were selected and special groups organized to receive the supplies. One of these areas was situated less than 30 miles from the center of Oslo.

The Communists tried to get influence in the underground army but when it became clear that the end of Germany's war was near, they co-operated with the Norwegian government and its military leaders. The chief reason apparently was that the Communists in Norway were so few that they did not want to come into the open.

It was an enormous advantage for the Norwegian home front, with its underground army, that there was such a long and forested border to neutral Sweden. Across this border supplies of all kinds were carried including news and propaganda material and radio equipment. The German soldiers with a hearty dislike for forests stuck to the roads. The secret paths through the forests were as a rule very safe. Employing these, the Norwegians used all kinds of tricks when smuggling men and material across the border. I know that one man who was on a very important task was carried across the border sitting in the water tank behind a railway locomotive dressed in a diver's outfit. Many friendly Swedes gave a helping hand keeping Norwegians informed by packing export goods to Norway in fresh news-

papers! When you are under strict censorship it is a wonderful medicine to read a paper with uncensored news from all the world. Such papers were read in Norway, passing from hand to hand secretly, until they were mere lumps. Contact with the outer world meant very much to the average Norwegian.

Vivere non est necesse, navigare necesse est.

Earlier in this article I mentioned that 90 percent of Norway's merchant marine was outside Germany's reach, sailing the seven seas when the war struck. To keep this fleet operating was Norway's most important contribution to the Allied war effort. During the battle of Britain, Norwegian tankers carried more than 50 percent of the gasoline that kept the RAF flying during that critical period. The old Latin phrase: to live is not necessary, to sail is necessary, certainly was true. As 30,000 to 40,000 men were engaged keeping the ships going, Norway's military forces in the Allied countries never reached great numerical strength. The mercantile marine had first priority. The remnants of the army and navy that had been fighting in Norway kept on, based in Britain and were expanding all the time. New men for the air force were trained in Canada, gunners for the mercan-

tile marine in USA. A small but good navy consisting of destroyers, frigates, MTBs, submarines and motor launches operated from Britain, the Shetlands and Iceland against the Germans. In Scotland a brigade trained in mountain warfare for a future job in Norwegian terrain. Some of the best men of all the 3 services were parachuted into Norway as instructors to the underground army, as specialists in intelligence service, sabotage in harbors, etc. But the largest armed force outside Norway was organized and trained in neutral Sweden! I don't think anything really similar had ever taken place before.

Refugees were organized.

In the summer of 1940 a flow of refugees came across the long border from Norway to Sweden. To start with, the Swedes had to be very cautious so as not to get into serious trouble with Hitler. Sweden was not militarily strong enough to face Hitler's surrounding legions but as time passed by—and especially as the Germans had to face the severe winter in their Russian campaign—the situation was altered. Thousands of young Norwegians were kept idle in Sweden because there were no means of getting them over to Britain. Before Soviet Russia got into the war some men travelled through Russia,

Turkey, India, Hong Kong to Canada to join the Norwegian Air Force, but the bulk of refugees had to take jobs in the Swedish forests. In the spring of 1942 the Norwegian authorities in Sweden saw a chance to organize the young men and silently preparations were made. In the autumn of 1943 the final solution was found. All young men were called up to spend 3 weeks in the "health camps." Twenty seven such camps were organized and 8,700 men were gathered in them. They were permitted to stay in camp for 3 weeks, but as time passed new permits were given by the Swedish government and the young men stayed on. They started to learn the use of charts and compass, they employed wooden rifles for drill and they trained on obstacle courses. At the same time very qualified young men were called up to form a "National Police Force." They were schooled by the Swedish criminal police. They were also equipped with modern infantry arms in addition to their ordinary police outfit. In this way 1,500 men were trained who did an excellent job establishing law and order in Norway during the first weeks after the liberation.

Two military forces were thus trained in Sweden—one "National Police Force" consisting of 1,500 men and one "Reserve Police Force" which had its base in the 8,700 men called up for "health camps." In 1944 the Swedish government felt strong enough to face Germany and from week to week the "Reserve Police" saw new infantry arms coming into their camps—automatic rifles, tommy guns, hand grenades, light and heavy machine guns, mortars and, finally, artillery. The force was expanded from month to month—in the end the National Police Force and the Reserve Police were organized respectively into 10 companies and 12 battalions. Each battalion had 3 rifle companies, 1 heavy company, 1 staff company with special units for signals. Each battalion had a combination of horse-drawn transport and motor transport with 12 lorries and 75 light horse carts.

At the end of 1944 several battalions were ready to fight. The Germans retreated from Finland on the northern front between western Finland and Finnmark (northern

The forests offer excellent cover for clandestine activities



Norway). The Russians were on their heels. Now a most interesting operation took place. A Norwegian force was transported from northern Sweden across western Finland and thrown into devastated Finnmark between the retreating Germans and the Soviet Russian forces. Thus little Norway marked that it wanted to have a hand in what was going on in its own most northerly province. Another Norwegian force sailed from Britain and took control of eastern Finnmark in co-operation with the Russians.

Where something special is taking place you will very often hear the name of Col Bernt Balchen. In the autumn and winter 1944-45 he was in command of a special transport squadron—American Lodestar aircraft stationed in Kallix in northern Sweden. With his airplanes he flew 1,800 tons of equipment and supplies into liberated Finnmark during the stormy winter! He was exactly the man to do the job and he did it.

Waiting for the final breakdown of Hitler's Germany the National Police Force and Reserve battalions not used in Finnmark were organized into 3 groups—one to march against Oslo and eastern Norway, one to march against Trondheim and the third against Narvik. I believe it may be truly said that when the march started it was done with a precision and order which did very much to save life and property in Norway. Vidkum Quisling was executed. Things went very smoothly and within a very short time 400,000 German officers and men and 80,000 prisoners of war had been transported to their home countries.

Norwegian military defense today

Norway was the first country bordering Soviet Russia to join NATO. 9 April 1940 had been one lesson. The second one was the



Organized locally, the Home Guard is ready for instant mobilization

Communist coup in Czechoslovakia. It was a risk to take to join up, but the vast majority of the nation was behind it. We had learned that to stick together is the only way of surviving when dictators are out. We felt also that this time we could not easily be overrun in our own mountainous country. We had a long way to go to build up a strong ready striking force, but we had a very good foundation in the men from the underground army, the forces trained in Britain and the forces trained in Sweden. Norway's military defense is today built on the key men from these 3 forces. In 1947 we sent the first infantry brigade to guard the southern border of Denmark which we at the time regarded as a critical juncture. They trained with the British Army of the Rhine and with the American Forces in Germany. As time passed by we trained 11 brigades that way. Today there are standing Norwegian forces in the north and in eastern Norway. The men get a basic training lasting 16 months and are called up for refreshment courses in their "com-

bined regiments" which very much correspond with American "combat teams." The air force is flying their F84s, the navy has very well trained, war-experienced personnel. We have something more which deserves its own heading.

The Norwegian Home Guard. Men ready at any time — and everywhere

Many countries have a Home Guard, but in no country does it represent such an important part of military defense as in Norway. In a short time the Home Guard will represent a standing force of 120,000 soldiers, that is to say 3.5 percent of the population. They are trained and they keep their training fresh by exercises all through the year. The majority are between 30 and 35 years old. They have their uniforms and personal arms at home and munition supplies are stored with each platoon. Norway is a relatively large country with a small population. The soldiers in a locally organized emergency defense unit must therefore fulfill a double duty: to carry on with their work where possible, and to take up arms when necessary. The Home Guard of Norway fulfills these conditions. The country is divided in 18 Home Guard Regions, which generally speaking, correspond with the call-up regions of a combined regiment. The regions, each of which is under the command of a Home Guard District commander, (lieutenant colonel or major) are divided into HG districts under district commanders—in all 75. These are again subdivided

Lief Bohn is the Military Editor of the "Aftenposten," the largest and most distinguished newspaper in Norway. Besides being considered one of the foremost military writers in his own country, he is an officer in the Norwegian Home Guard and is most actively engaged in the matter of constantly increasing and improving this fine organization. The article was acquired through the efforts of LtCol S. B. Folsom, former Asst Naval Attache in Oslo. While in Norway, LtCol Folsom wrote he was "impressed by the combat shooting courses they [the Home Guard] ran—we have nothing to compare."

into Home Guard areas of which there are 552. An area may contain from 30 to 800 Home Guard members. Thus, the whole country is organized into areas where men at an hour's notice, or less, are ready to put up resistance to any intruder that might turn up — across the border, from the sea or from the air. These men have the great advantage in knowing their own terrain as their own pockets. They can move by night or day and make the best use of the terrain. They know all the hiding places. They have in many cases prepared their defense positions and measured all distances of special interest. They will everywhere be helped by the local population. If there are any "bad apples" among the people, they are likely to be known. The HG men know each other and have picked their own leaders who are specially trained afterwards in officers' courses at the HG schools. The men will as a rule do exactly the job they know from their everyday work. The road foreman is likely to be a pioneer sergeant. He can handle the dynamite and knows exactly where to blow up

the road if enemy tanks are approaching. The engineer of the local water power plant or of a factory will be in charge of signals and communications. Very often he will have short-wave amateurs at his disposal. A local doctor will be in charge of medical service. You will find all the professions of a society in the Home Guard employed the best possible way because the organization is built up by men at the place who know what a man is good for.

In the event of mobilization the Inspector General of the Home Guard and some of his staff join the War Office Staff. In a similar manner regional commanders join the local military staffs and district commanders join their local district staff. The commander of a local military unit and the commander of the district of the Home Guard may be the same man. In all events the Home Guard District Commander assumes command of the local military unit until the latter arrives.

Local military commanders have authority over all Home Guard units which are available for mobilization in their districts. In the same man-

ner corresponding naval and air force commanders have authority over the Home Guard units which are available for mobilization in their respective services. Pistol, rifle, tommy gun, light and heavy machine gun and mortar are the weapons with which a normal HG unit is equipped. Certain HG areas, which are particularly suited to special duties, may be equipped with other arms such as antitank guns, light and heavy antiaircraft guns and other heavier ordnance.

One of the major tasks of the HG is in case of war to defend depots etc. so that mobilization can take place undisturbed. Let me give an example: If the warning signal goes, within a few minutes Home Guard men living close to the Central Broadcasting Station in Oslo will proceed to duty guarding the station against coup. They have trained for this job again and again. Other men, belonging to the railways, will rush to the railway stations, junctions, etc., where they ordinarily work and keep up their job — but now in uniform, carrying rifles, tommy guns and light machine guns.

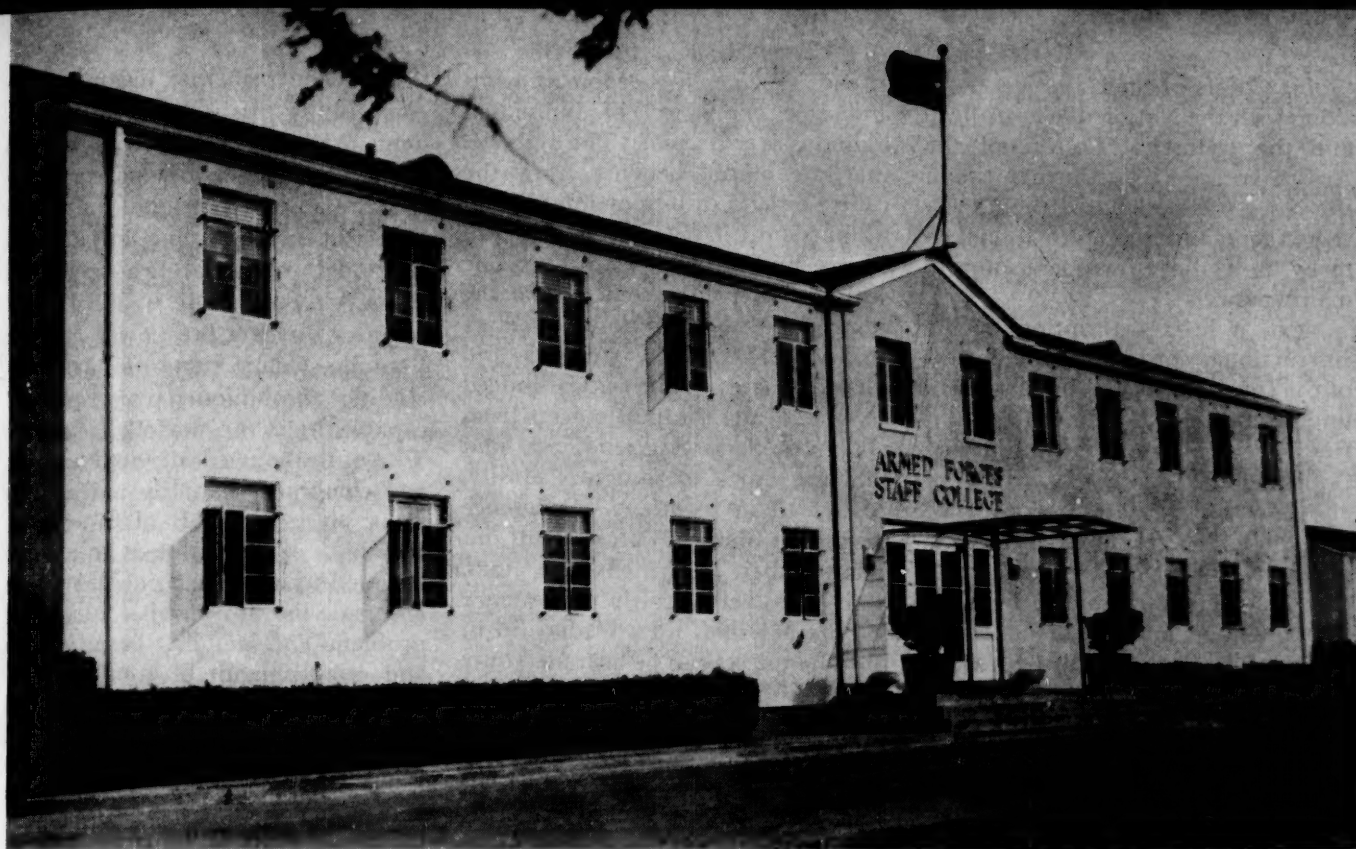
Of course, the HG men have to fight in smaller units; you can't (without special training) bring them together, for instance in battalions, and let them fight in larger formations. That would be beyond their capability. As it is, everywhere in Norway — including the nomadic Lapps with their reindeer herds in Finnmark — there will be units of men ready for ambushes, cutting enemy communications, sniping and guerrilla activities. They have plenty of space at their disposal; more than 80 percent of Norway's territory is bare rock, mountain ranges and forests.

Sometimes riflemen in Norway may ask themselves: Is it still of any use to practice with rifles and machine guns in the age of the H-bomb? I have no doubt about the answer. The US has the Big Bomb, the great retaliant, the blacksmith's big hammer. But the blacksmith would be almost helpless without other tools, the small hammer and the tongs. There must be somebody to draw a line so that you know where to use the big bang. We would like to draw that line as far away from the heart of our beloved country as possible.

US MC

Home Guardsmen practice basic infantry skills near Oslo





MARINES LEARN THE "JOINT"

By Col R. E. Cushman, Jr.

✿ USED TO BE THAT THE LIFE OF A Marine was simple and uncomplicated; a career of duty within the Marine Corps, lots of landings with the Navy, and only an occasional venture in which an acquaintance with the Army developed. When we recall that joint operations are those involving two or more Services, we can see that Marines have had many joint experiences with the Navy but that it pretty well ended there. Well, is this any cause for pushing the panic button? The answer is that with the passage of the Security Act of 1947 there was established another Service, and with the development of the cold war with the Communists there was ushered in an era of unified commands around the globe. Marines must be able to contribute commanders and staff officers of the highest caliber to joint operations.

The problem is: where can they learn the basic principles of the trade? The answer: the Armed Forces Staff College.

First, let us take a look at the mission of the Armed Forces Staff College: it is to educate selected officers of the Armed Forces in joint operations, including the planning thereof, and to provide background for an appreciation of combined operations. In plain words, the object of the school is to train officers so that they can become staff officers in a joint command immediately, and can become commanders of joint forces eventually, in addition to giving them an appreciation of international commands composed of forces of several nations, such as NATO.

This mission actually expresses a need of the Armed Forces which was

recognized as early as the first year of WW II. It was evident that joint and combined operations were becoming increasingly important in the waging of the war and that there was a dearth of staff officers who understood the basic principles involved or who were aware of the capabilities and limitations of the various Services. Consequently the Joint Chiefs of Staff authorized the establishment of the Army and Navy Staff College, and the first class assembled in Washington, DC on 5 June 1943. After the end of the War, the Joint Chiefs of Staff decided to put the institution on a permanent basis and the Armed Forces Staff College was officially established in Norfolk, Virginia in August 1946. The Joint Chiefs of Staff supervise the technical direction of the College, which is numbered among the

"Joint Chiefs of Staff" joint schools along with the National War College and the Industrial College of the Armed Forces. The Department of the Navy was designated the Executive Agent and therefore is looked to by the College for operation and maintenance.

Next, a brief description of the instructional procedure used and of the course itself will be helpful in understanding how the College carries out its assigned mission. The College has two classes a year of about 21 weeks duration. Each class has about 200 students with equal numbers from each Department of the Armed Forces. Among the Navy component we find 10 Marine officer students each class; all lieutenant colonels with about 14 to 16 years service. At the present time 6 of these officers are ground and 4 are aviators. On the faculty we have 3 Marine officers: one colonel in Plans and Operations, who currently is Director of the Division, but will be relieved by an Army officer as this job is rotated among the Services, one lieutenant colonel, ground, in the Intelligence Division and one lieutenant colonel, aviator, in the Logistics Division. These Marine instructors are assigned regular teaching duties with the rest of the faculty, act as advisers to the Marine students, are consulted on matters relating to amphibious operations and are the protagonists of the Marine Corps point of view in discussions which require it.

The class is divided into 14 groups with about 14 officers in each group. The 10 Marines are assigned one to a group. These groups are called committees and are the basis for most of the instruction. The normal pattern followed is that lectures are given in the morning to the class as a whole and the afternoons are devoted to discussions and problem solving by the committees. The atmosphere is that of an institution of higher learning; there are no marks assigned, no musters or roll calls to

attend. Academic freedom prevails and free expression of individual opinions is expected. The result is that an officer benefits from the course exactly in proportion to what he puts into it in terms of his own efforts, study and self-discipline. The real "marks" which come out of the course are the opinions of one's ability by his fellow students—and their estimates can be critical indeed as some of the sharpest officers from all of the Services attend here and they are quick to recognize ability, or lack of it, in others. Difference in rank or ability to bluster will not change their judgment one iota. This is a very healthy experience for the Marines, since leadership in the committees can be exercised only by exhibiting a high order of professional knowledge and competence. This leadership is required because the students all get their turn at being the commander, the director of a staff division, or a conference leader in the hypothetical commands and staffs, or in the discussion groups which are set up to probe and solve the various problems. The instructors here do very little teaching. Rather they set forth a situation and the known facts bearing on it in such form that the students can come to grips with it. The students must then research and solve the problem, which often involves the preparation of plans and estimates, or the oral delivery of briefings similar to those given to higher commanders by their key staff officers. Instructors monitor, advise and conduct critiques. It is apparent that the student must take a mature approach to the course; very little is done for him and he must exercise his brain and his initiative, and be able to speak and think on his feet in order to stand out at the College.

The actual instruction falls into 3 main divisions. Part One comprises the orientation and background instruction required to acquaint all students with the capabilities and limitations of all the Ser-

vices. The principal means of accomplishing this is to have the students orally describe their Service to the other members of their committee, and answer their questions. Part One also includes some fine demonstrations: of aerial fire power at Eglin Air Force Base in Florida, of infantry division fire power at Fort Benning, Georgia and of naval, including amphibious, power and capabilities in the Norfolk area. Part Two of the course is devoted to joint and combined planning and operations: it is the heart of the course and half of the allotted hours are assigned to it. The principal topics are made the subject of lectures and problems and include: organization and establishment of command relationships within a theater area of responsibility; staff functioning and procedures within a unified command; initial planning within a theater of operations; the joint planning process to include the required estimates, the commander's decision, campaign planning and operational tactical and logistical planning. Conventional land, sea and air operations are considered and, in addition, amphibious and airborne warfare. Finally the existing unified and combined command structure around the world is described and analyzed. Part Three of the course is called the trends of war and is an exercise in imagination. Full reign is given to a discussion of warfare of the future and to the many divergent opinions as to the character of a possible World War III. And to put the frosting on the cake, the course finishes with a comprehensive group discussion of our National Strategy. Instead of grumbling about how "they" are doing it in Washington, the student is required to come up with his solution to the problems facing the country today. Since Allied observers are also in attendance at the College, one of our Marines may find himself describing how we would solve the North African crisis to a committee which includes a French officer ready, willing and able to tear his solution to shreds. This tends to stimulate research for facts and logical thinking for conclusions, as the reader can well imagine!

In conclusion, let us evaluate this Armed Forces Staff College from

Col Cushman's background qualifies him to speak with conviction on the subject of joint planning, operations and education among the Services. Until recently he was Director, Plans and Opns Div, at the Armed Forces Staff College. During his 21 years' service he has served on "joint" staffs at CINCNELM in London and Naples, CIA, ONR as well as serving aboard ship and instructing at the Senior School, MCS.

the Marine point of view. Is it of value to the Marine Corps and to the individual Marine officers who attend? First, let us see what the Staff College is *not*—it is *not* in any way a substitute for the Marine Corps Schools, nor is it competitive. All students who come to the Staff College should be thoroughly grounded in their own Service and should have attended their own Service schools, if possible, through the Senior School level at Quantico—or comparable level in the other Services. They should already know the fundamentals of command and staff functioning and procedures as practiced within their own Service. The Armed Forces Staff College requires this foundation as a base upon which to build knowledge of joint procedures and functioning.

Now to outline the benefits. First, there accrues a great intangible benefit, learning to know officers from all the Services, and, even more important, how they think. Every Service position on any controversial subject is described and discussed. The Marine knows all of these conflicting Service positions when he graduates. This is invaluable in the rough and tumble of the Pentagon conference, or in the achievement of smooth joint staff work within a unified command in the field.

Second, the Marine officer is prepared to do a good job on a joint staff, one which will reflect credit on the Marine Corps. The officer is better prepared to be an accomplished advocate of the Marine Corps position when that is necessary. And I would like to emphasize a fact which many Marine officers, particularly junior ones, do not know—there are many, many jobs for Marine officers on joint staffs, and on some staffs of other Services. They range from Tokyo to Frankfurt, from Oslo to Naples, and are found in Washington in profusion. In addition to these billets, it is getting more difficult now to find any responsible billet for a senior officer which does not require many contacts with the other Services, either to co-ordinate planning and programs or simply to attend the ubiquitous conference. It used to be that whenever two officers met they had a drink together; nowadays they hold a conference! The Staff College prepares the Marine well for these all-pervading joint aspects of modern military life.

Third and last, there is the benefit to the individual Marine himself. It is very valuable every once in a while to get a job where you have to exercise command by persuasion. You can't cover up poor thinking

and preparation by simply barking out the order to execute. You have to be able to convince by logical reasoning processes and by professional competence that your way is the best way. That is the situation which confronts the Marine student here. Also, the Marine learns that there are many problems today which are neither black nor white, but gray, and require compromise of many conflicting factors for their solution. This state of affairs is not immediately apparent to the officer in a tactical unit, where most of the answers are clearly written out in the Landing Force Manuals. It is clearly demonstrated here at the Armed Forces Staff College during the discussions at which a solution must be hammered out from the divergent views of the participating committee members.

To sum up: the Armed Forces Staff College is an outstanding school which compliments the Marine Corps schools in rounding out in excellent fashion the education of the Marine lieutenant colonel. It is highly recommended that the Marine Corps continue to fill its quota at the College, and that individuals selected to attend realize that they have been *especially* selected for a most rewarding and high-level course of instruction. US ♣ MC



Facing Facts

♣ A QUICK appreciation of a situation has often saved a Marine. I know of no better illustration than the following incident which occurred recently.

An inspecting officer from Headquarters was questioning vehicle operators as to their knowledge of the capabilities and limitations of their vehicles, fording depths, loads, grades that could be climbed and the like. The answers were not heartening. On his return to his quarters, he questioned the jeep driver and found that he didn't know either. When asked, the driver readily agreed that such information was important and useful. Finally, in desperation, the officer asked, "When do you think this information would be important?"

"Right now, sir!" was the laconic reply.

LiCol W. F. Frank

RHIP

♣ WHEN I WAS NCO-in-charge of the commissary of the Marine Detachment, American Legation, Peking, China in the 30s, I ordered some asparagus tips for sale through our small sales commissary. Through error the San Francisco depot shipped a larger quantity than the order called for, and to avoid spoilage I issued some to the general mess. The day the asparagus tips were served in the general mess the sergeant's mess had asparagus (the regular issue kind) on the menu. As the Chinese mess boy pushed the laden food cart for the sergeant's mess through the mess hall a raw-boned, red-headed corporal from Texas sitting at one of the tables eating asparagus tips drawled, "That's the way it is. The sergeants get all of the asparagus and we get only the tips."

Maj W. L. Williams (Ret)

(The GAZETTE will pay \$10.00 for each anecdote published. Submissions should be short and pointed.)

VTOL

✻ HELICOPTERS ARE JUST NOW GAINING a good foothold in military circles, yet there is already some talk to the effect that a newer and more sophisticated class of aircraft will soon take their place.

This new class of flying machine—called direct lift or VTOL (short for Vertical Take-Off and Landing) aircraft—consists of a whole group of aircraft types which, like the helicopter, are capable of take-off and landing without benefit of a ground run. The most significant feature of the newer types of VTOL aircraft is that they are capable of flying at considerably greater speed in forward flight than the “old fashioned” helicopter.

In typical helicopter-type military operations where the machines are required to hover extensively (anti-submarine warfare, for example) or else are used to carry something from one unprepared landing site to another (transport or liaison missions), just how important is this speed advantage? Is there a basis of comparison between VTOL types better than speed alone? Is the helicopter, in fact, likely to become obsolete in the Armed Forces as a result of the appearance of the newer type VTOL aircraft?

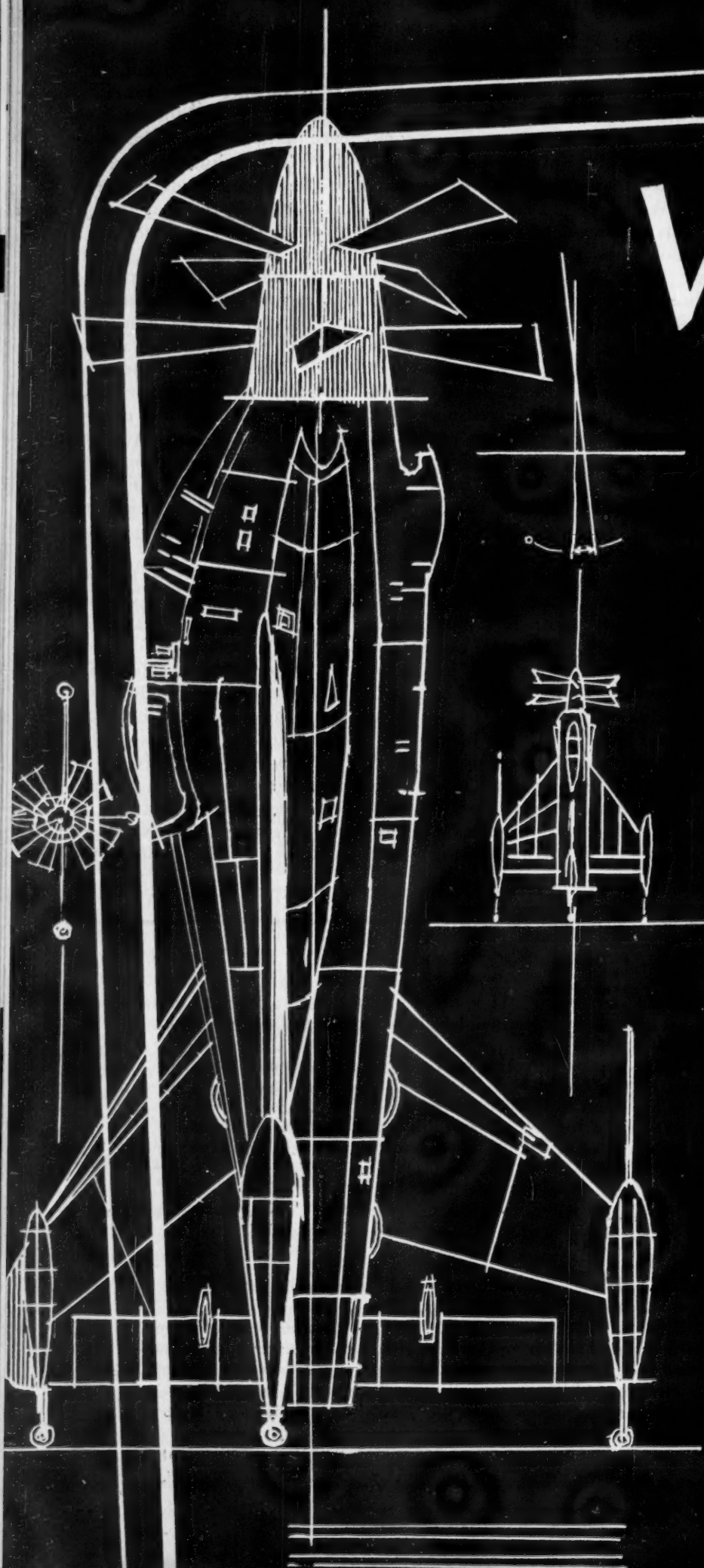
We will analyze the more promising type VTOL aircraft, as well as the familiar helicopter, to see if we can find answers to these questions.

Before we begin picking individual aircraft types apart to view their more personal traits, we should have a fundamental understanding of VTOL aircraft in general.

Principle of Vertical Lift

First of all, the force which per-

Marine Corps Gazette • January 1957



A new field of employment as well as an entire new family of aircraft has evolved from the Vertical Take-Off and Landing flying machines

By Maj A. J. Clapp

mits aircraft to ascend straight up is familiar to any student of elementary physics, and has been experienced by anyone who has fired a shotgun or high powered rifle. It is the *reaction* referred to in Newton's Third Law of Motion: "For every action there is an opposite and equal reaction."

This is usually demonstrated in the classroom by letting air escape from an inflated toy balloon, thereby propelling the balloon around the room. And most of us have had it pointed out to us in the form of shoulder bruises following qualification firing on the rifle range.

In the case of an aircraft, to be capable of being sustained motionless in space it must have some means of accelerating a mass of air downward continuously so as to produce a reaction at least equal to its own weight. The *action* of the air being shoved downward causes *reaction* in the form of vertical lift.

Again, we need only refer to elementary physics to determine that this lifting force equals the affected air mass multiplied by its final vertical velocity. In other words, the same lifting force may be derived from a small air mass accelerated to say 1,200 feet per second from the tailpipe of a jet engine as is derived from a much larger air mass accelerated to about 30 feet per second by a helicopter rotor system.

Even though, as was pointed out, equal lifting force may result from a small air mass moving at high velocity and a large air mass moving at lower velocity, less power is required in the latter case. This is an extremely important consideration when analyzing VTOL concepts, and will be

evident throughout this discussion.

Terminology

To have some means of measuring the amount of air volume affected, the term "disc area" is used. The circular pattern you see when you look headlong at a turning propeller or rotor, if regarded as a solid plate rather than a group of blades, is a graphic portrayal of what is known as disc area. Disc area is logically measured in square feet. (Disc area of jet engines, on the other hand, is considered to be the area of the tail pipe).

The term used to denote the relationship between disc area and lifting force expected to be generated by the rotor or propeller is "disc loading." This is simply the number of pounds of overall aircraft weight the rotor or propeller disc is expected to support. It is expressed in pounds of aircraft weight per square foot of disc area.

The last term we need to take notice of at this point is "power loading." This is the term used to indicate engine power required to drive the rotor or propeller in order to realize enough lifting force to get the aircraft into the air in vertical flight. It is expressed in pounds of aircraft weight per engine horsepower. (Power loading of jet engines is normally expressed in pounds of aircraft weight per pound of engine thrust).

For vertical take-off and landing characteristics, therefore, an aircraft must be designed with compatibility of the above 3 factors: disc area, disc loading and power loading. For a constant aircraft gross weight, the larger the disc area, the more air

mass will be affected and the less pounds per square foot the disc must support (i.e. the disc loading will be decreased). As disc loading decreases, the velocity at which the air mass must move will decrease proportionally. And the less velocity which must be imparted to the air mass, the lower will be the power requirement.

Now that we have some yardsticks with which to measure them, let's look at some VTOL aircraft and determine their relative attractiveness in a military sense.

VTOL Aircraft Types

It should be noted here in the beginning that even the most competent design engineers are not necessarily the best source of material to be used in drawing comparisons between the different design concepts. They all have their pet theories about VTOL craft; and each one is just as sure that his design is the best as you are positive that your wife is prettier and your children smarter than anyone else's.

Since this comparison is to be based upon helicopter-type tasks, several VTOL types can be eliminated at the outset.

When extensive hovering is required, and/or something must be loaded into or suspended from the aircraft, the so-called "tail-sitters" similar to the Convair XFY-1 shown in Figure 1 would not be appropriate for the job. The difficulty involved in loading such a machine and the threat of power loss while airborne in this attitude would cancel any speed advantage when it is to be used as a transportation vehicle or hovering platform.

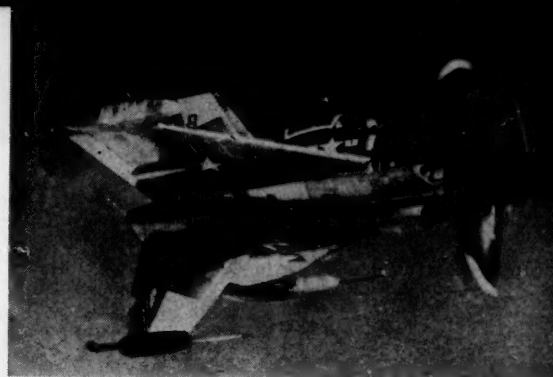
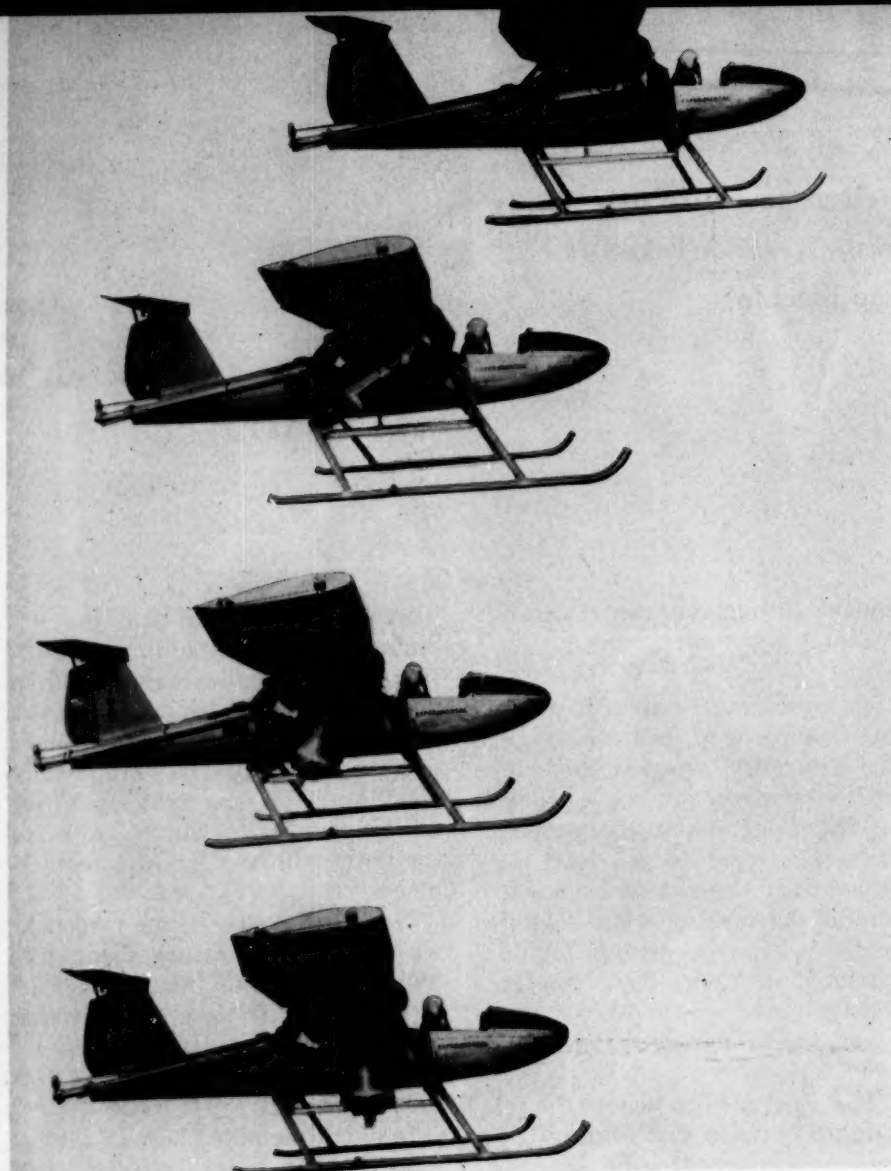


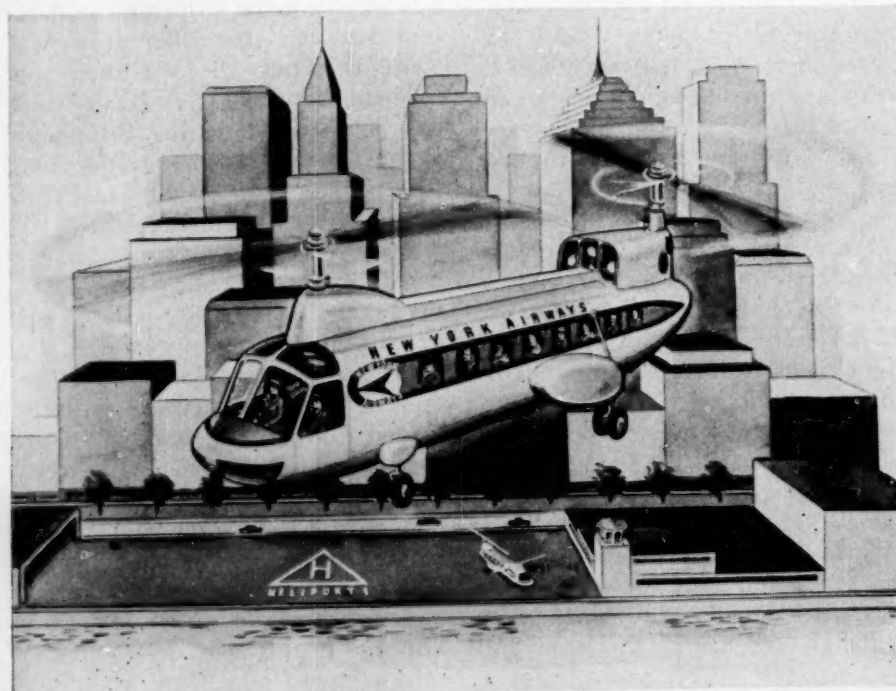
Figure 1 — XFY-1

Convair



Bell

Figure 2—Bell tilting turbojet converting from hover to forward flight



Bell

Figure 3—Bell transport proposal powered by 3 shaft turbine engines

Aircraft powered by turbojet engines, similar to the one in Figure 2, are likewise ill-suited for these type operations. Turbojets are extremely inefficient at low forward speeds, and maximum power for VTOL aircraft is required at zero airspeed while in the process of taking-off. Also, the high rate of fuel consumption common with this type engine would necessitate carrying huge fuel loads thus penalizing payload carrying capability.

Therefore, for typical military operations outlined previously, the more promising types of VTOL aircraft currently in existence or on the drawing board are:

- a) Conventional helicopter.
- b) Unloaded rotor convertiplane.
- c) Retractable rotor aircraft.
- d) Tilting rotor convertiplane.
- e) Deflected slipstream aircraft.
- f) Tilt-wing aircraft.

Each of these will be examined to see how they compare with the others. But first, for the benefit of those who are not familiar with the basic concepts of the various designs, we will take a brief glance at each to see how they work.

The helicopter, one of which is shown in Figure 3, is a *rotary wing* aircraft. That is to say, it receives lift from a wing moving with respect to the air, as do most other aircraft. But unlike other aircraft types, the helicopter's wing is rotated to attain a relative air velocity instead of being pushed along at the same speed as the airframe. The helicopter's wing is called a rotor, but that doesn't alter the fact that it is actually a long thin wing in shape and characteristics. The speed of rotation of a helicopter rotor remains practically the same for hovering and for maximum forward speed; which, as will be explained, is both an advantage and a disadvantage.

Since the helicopter's wing has enough airflow over it to sustain flight with the airframe standing still, it is therefore capable of vertical flight or flight in any direction: up, down, backward, or sideways. In that respect the constant-speed rotor is an advantage. But let's see what happens when the helicopter goes into forward flight and starts gaining speed.

Let's assume that the tip of the helicopter rotor is moving 350 knots in its orbit while the helicopter is

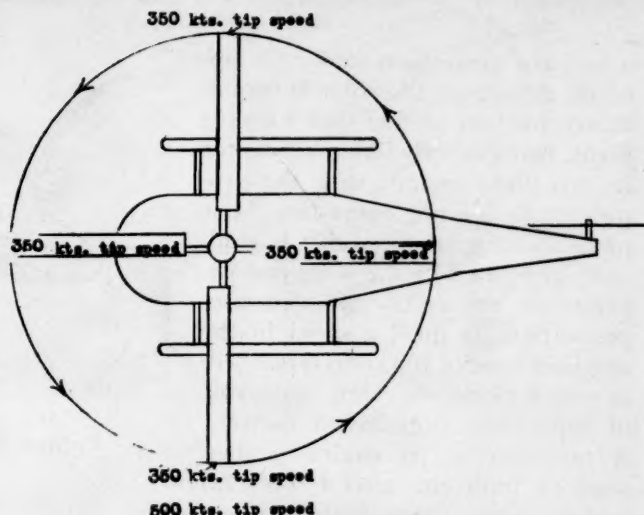
hovering. That should be adequate to give the rotor very good lift characteristics; the speed of the rotor tip is the same in every quadrant of travel, as shown in Figure 4a; and the speed is still at a satisfactory value below the speed of sound. Then suppose the helicopter moves into forward flight and accelerates to 150 knots forward speed.

Now look at Figure 4b. When the blade tip is in the *advancing* position, the forward speed of the helicopter is added to rotor speed; in this case bringing it critically close to the speed of sound at 500 knots. Then when the blade reaches the *retreating* position, the helicopter's forward speed must be subtracted from the blade's rotational speed. Needless to say, this brings about severe complications.

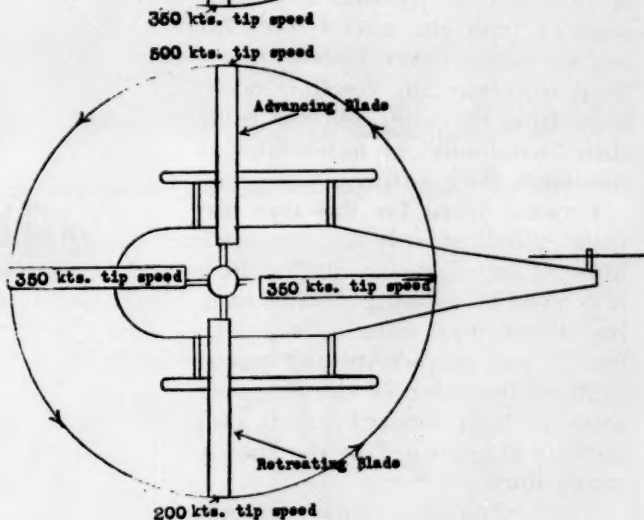
The net result is that the advancing blade begins experiencing the same "compressibility" shock treatment fixed wing aircraft wings receive in the transonic zone of forward flight speed. And the retreating blade begins to "stall" the same as any wing will. This combination of *compressibility* effects and simultaneous blade stall will continue to limit the forward speed potential of conventional helicopters until such time as a major breakthrough is made in rotor technology.

Furthermore, the conventional helicopter uses its rotor for forward propulsion as well as for lift. The *disc* is tilted slightly forward for forward flight to provide propulsion at the same time it is supplying lift. This is demonstrated in Figure 4c. This also tends to limit forward speed, as the only power available for forward propulsion is that which is in excess of the power required to hold the helicopter in the air.

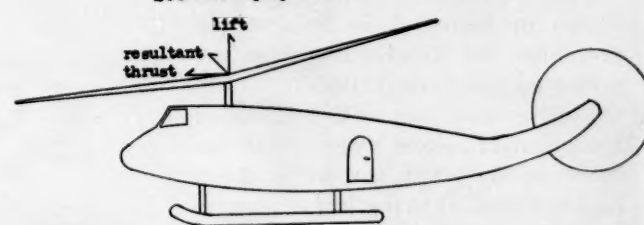
**Figure 4a—
Typical rotor tip
speeds of hovering
helicopter**



**Figure 4b—
Typical rotor tip
speeds of heli-
copter flying at
150 knots**



**Figure 4c—
Lift and thrust
vectors of a heli-
copter in forward
flight**



In order to retain vertical flight characteristics of the helicopter, yet push the speed frontier ahead, the compound helicopter or convertiplane was conceived. There are 3 basic concepts for convertiplanes, all of which have fixed wings and rotary wings plus a means of providing for-

ward propulsion exclusive of the lifting rotor.

The first of these, the unloaded rotor-type convertiplane, similar to the one shown in Figure 5, employs more conventional design features than the others since it is essentially a helicopter fitted with wings and

Figure 5—McDonnell XV-1 unloaded rotor-type convertiplane

An engine-driven compressor in the fuselage supplies compressed air via ducts in the blades to the rotor tips where it is mixed with fuel and ignited to provide rotor propulsion.



a forward propulsion device. It operates as follows: the rotor is engine driven for take-off and slow forward flight, flying exactly like a helicopter in this flight regime, with the propulsion device not operating. As it picks up forward speed, lift is gradually generated by the wing and dependence on rotor lift decreases proportionally until a speed in the neighborhood of 100 knots is reached, at which point the wing is capable of supporting the aircraft entirely. A propeller or jet engine is then used to push the aircraft forward and the aircraft then behaves like a fixed wing aircraft. Power is taken away from the rotor and the rotor then "windmills" or *autorotates* at minimum pitch setting.

Forward speed for this type aircraft is limited only by compressibility of the advancing blade (which is delayed because the rotor is turning slower than when it is supplying lift and propulsion) and by stability of operation of the unloaded rotor at high forward speeds plus parasite drag created by the autorotating rotor.

The retractable rotor aircraft shown in Figure 6, is designed to overcome the disadvantages of the unloaded rotor convertiplane. It operates the same way as the unloaded rotor convertiplane except that the rotor is retracted for high speed flight instead of being left to autorotate. The forward speed potential of this VTOL aircraft is estimated to be roughly equivalent to a fixed wing aircraft of similar weight and power.

From this, it might appear that this automatically builds an airtight case in favor of the so-called retractoplane. But does it? Imagine if you will, the terrific forces acting on a rotor structure when it is stopped in flight, folded in some fashion, and retracted into a receptacle in the wing or fuselage. Some design engineers are convinced that it is impossible to accomplish such a feat. But even if they are proven wrong, it is a certainty that the structure of the machine will be much heavier than other types of aircraft for comparable gross weights because of the additional strength required. This, of course, will mean reduced payload for a given gross weight.

It might be well, at this point, to clarify the term *payload* as it is often

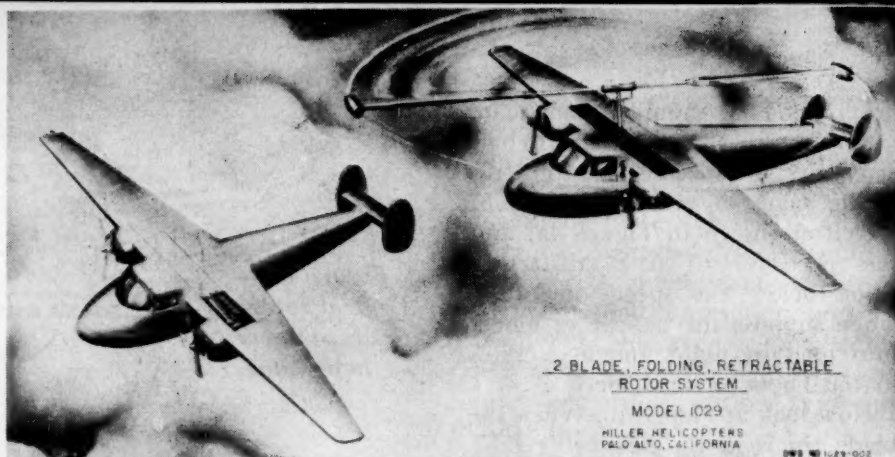


Figure 6—Artist's conception of a retractable-rotor aircraft

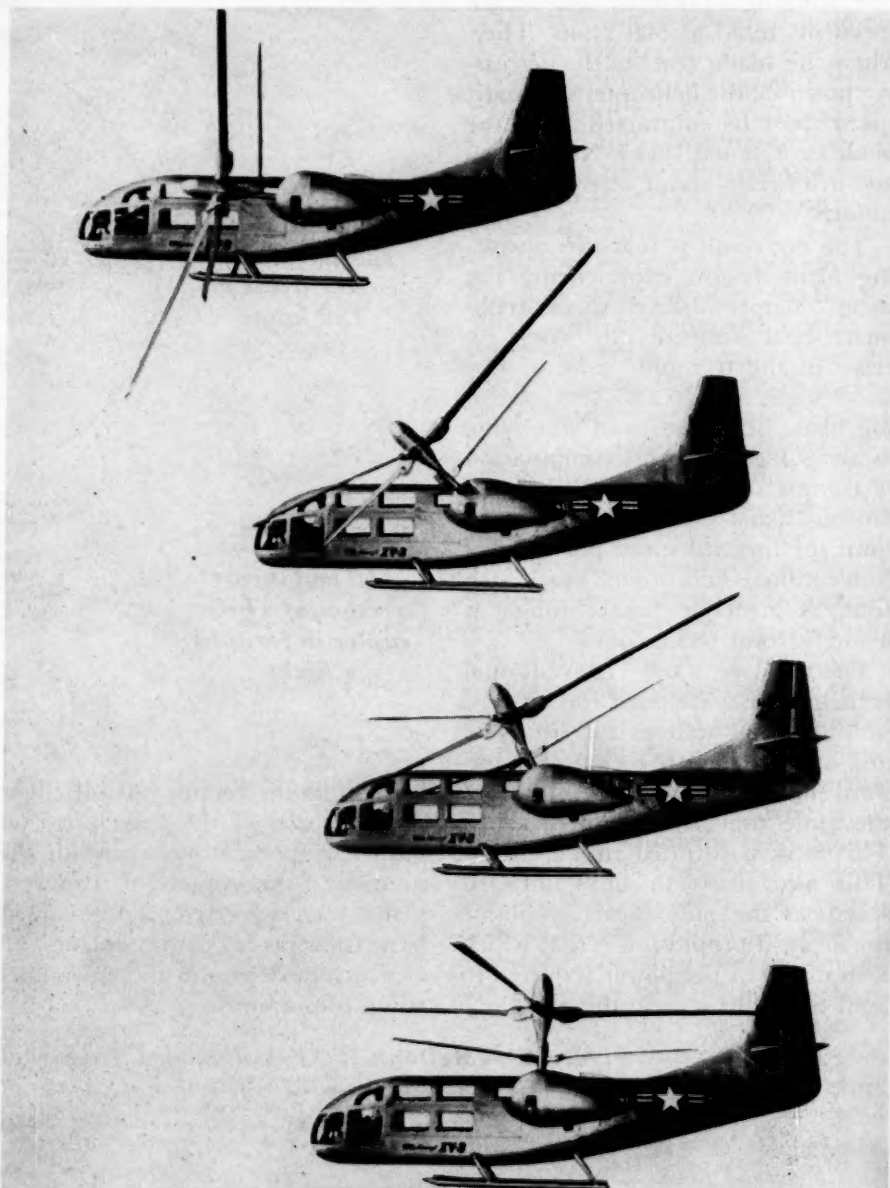


Figure 7—Bell XV-3 tilting rotor type convertiplane

confused with *useful load*. When empty weight of an aircraft is subtracted from its overall gross weight, the resulting figure is "useful load." Weight of the crew, lubricating oil, loose equipment, reserve fuel and fuel to fly the mission must be subtracted from useful load in order to

determine allowable payload. It is obvious, therefore, that there is a considerable difference between the two factors.

The tilting rotor convertiplane concept, as exemplified in Figure 7, is an entirely different approach to the problem. Here, as is the case with

previously mentioned types, the flight for this machine commences in helicopter configuration. The rotor shafts are vertical and the controls react identical to helicopter controls. This holds true until the machine reaches approximately 100 knots forward speed.

At that speed the airflow over the wing is adequate to support the weight of the aircraft so it no longer needs the lift provided by the rotors. The rotors are therefore rapidly tilted forward 90 degrees until they are in the same attitude as propellers on conventional fixed wing aircraft; and then commence functioning as propellers to pull the aircraft forward. This procedure is reversed for landing.

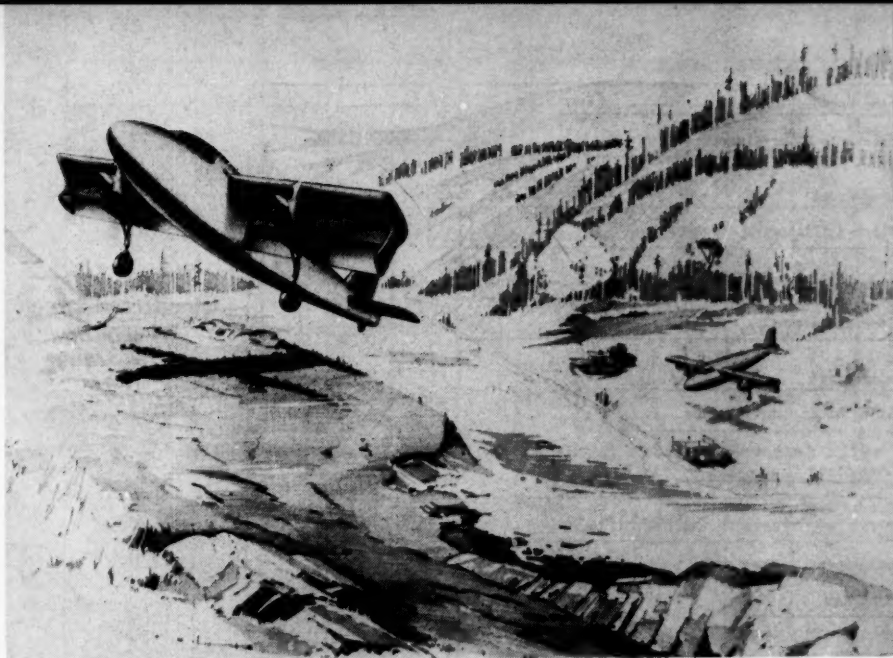
Forward speed potential of this type aircraft may in some cases be limited by rotor tip compressibility effects, but to a lesser degree than the unloaded rotor type. Aside from some rather heavy torsional loads on the wing during conversion from helicopter to airplane configuration and back again, there doesn't seem to be any unusual engineering drawback to this scheme.

The next VTOL concept we will consider is the deflected-slipstream type airplane as shown in Figure 8. This aircraft receives its vertical lift capability by bending the air columns generated by the propellers with wing flaps until they are aimed downward.

Since the disc area of the propellers is considerably less than rotors, they must impart more velocity to the air mass. This, as you recall, requires more power. In addition, there are losses in flow past the large wing flaps. And inasmuch as engines weighs a considerable amount, empty weight of this type aircraft suffers accordingly and passes the penalty on to allowable payload.

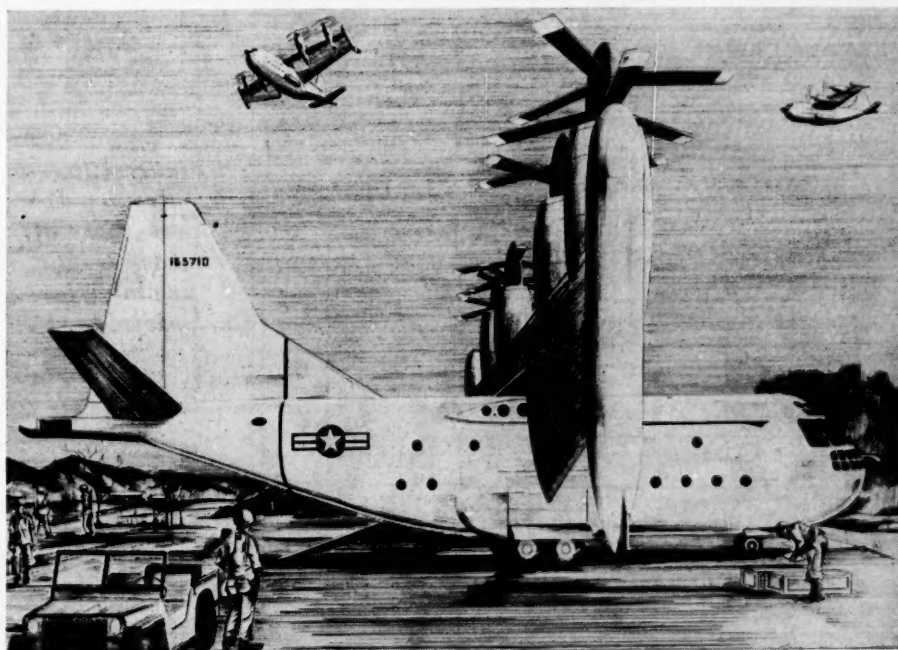
The deflected-slipstream-type aircraft has the decided advantage of being a completely conventional fixed wing aircraft in forward flight. Since it requires a comparatively large amount of power for take-off, it has a large reserve of power in forward flight to push it to high forward speeds.

However, it has a sizeable disadvantage in the field of flight control while hovering. The conventional flight controls are ineffective in this phase of flight so auxiliary control



Ryan

Figure 8—Artist's conception of a deflected-slipstream-type aircraft



Hiller

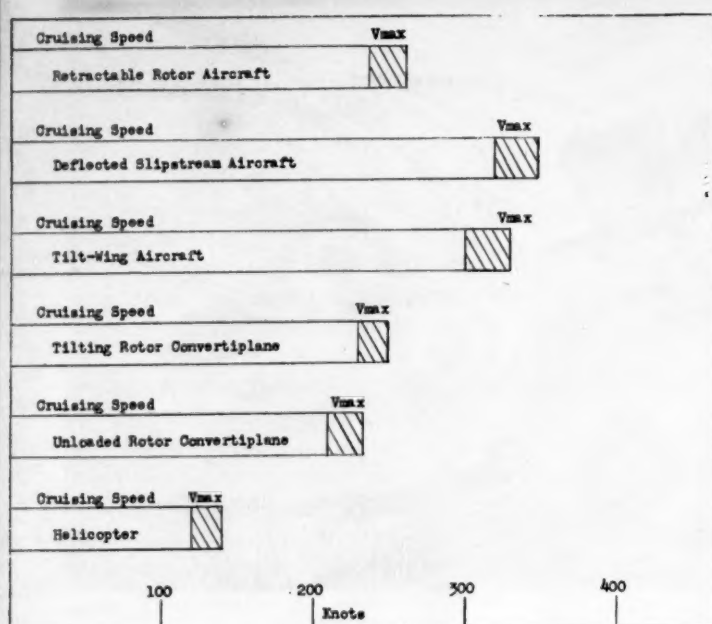
Figure 9—Artist's conception of a tilt-wing aircraft

means must be provided. One system is to have an air jet pointed downward from each wing tip and on the nose and tail. Valves for these jets are coupled to the conventional flight controls so that the pilot can control his aircraft's attitude with that handy force: *reaction*.

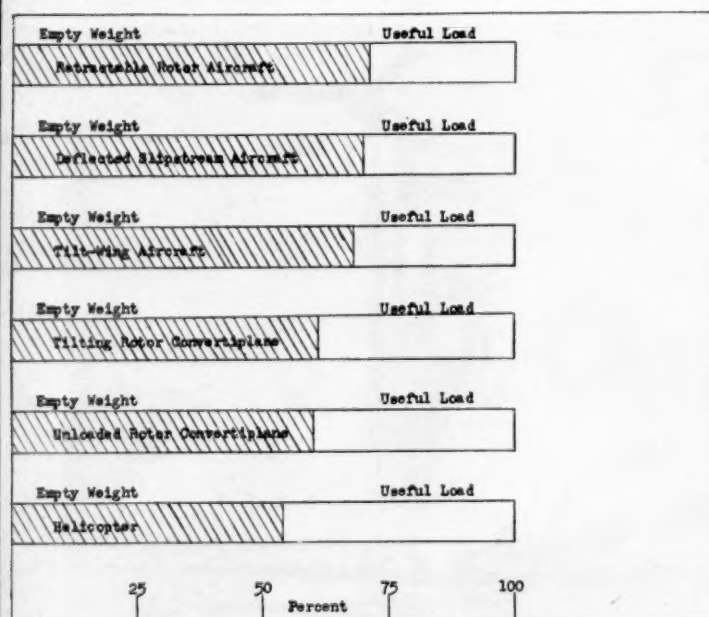
The last type VTOL aircraft to be considered is the tilt-wing aircraft. Figure 9 shows the transitional phases of flight with this type. The construction and principle of the machine is as follows: engines and propellers are mounted in fixed relation with the wing; however, the wing is swivelled at the fuselage for

turning through a 90 degree arc. The wing chord is in the vertical position for take-off and landing in order for the propellers to accelerate an air mass directly downward, thus giving the aircraft its vertical flight capability. After take-off the wing is gradually tilted to a horizontal position as the aircraft gains speed. When the wing reaches the horizontal position, it supports the aircraft in flight while the propellers pull the aircraft forward.

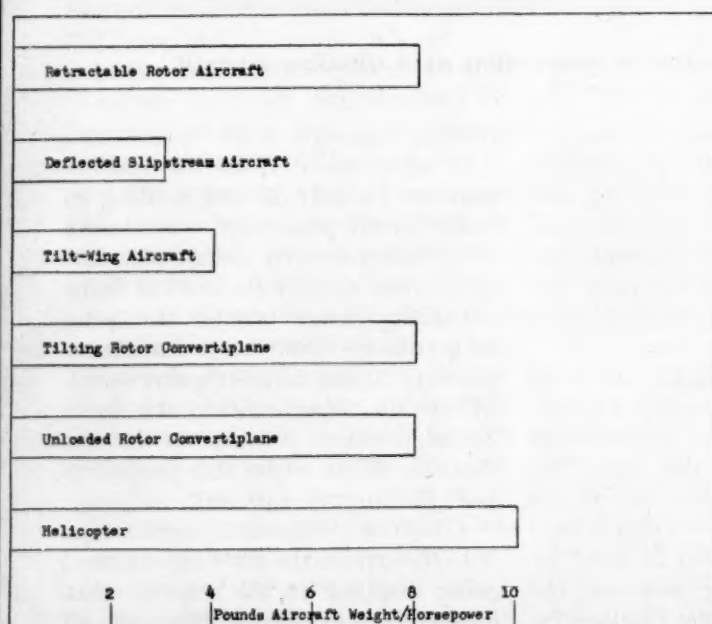
Like the deflected-slipstream-type VTOL aircraft, the tilt-wing is a fixed wing airplane in all respects after it completes transition from take-off



**Figure 10a—
Predicted speed
of various
types VTOL
aircraft**



**Figure 10b—
Predicted
percentage of
gross weight
available for
useful load**



**Figure 10c—
Predicted
power loadings
of various
types VTOL
aircraft**

configuration. The performance of the machine is quite similar to that of the deflected slipstream airplane, having about the same speed potential, requiring only slightly more power for similar gross weight, having nearly the same allowable payload for the same gross weight, and likewise requiring auxiliary control means for hovering if conventional propellers instead of helicopter rotors are utilized.

Speed Consideration

Figure 10a is a graphic display of the approximate forward speeds of various VTOL aircraft types having characteristics considered likely to be developed during the next 5 years. Now, what significance should be attached to this one factor for military operations?

Speed is of importance to an air transportation system in a non-combat environment only insofar as it affects time required to move a given amount of tonnage a specified distance. On the other hand, when the air transportation system is placed in a combat environment, speed assumes the additional function of influencing vulnerability.

It is impossible to state a speed at which a VTOL aircraft would be "safest" with someone shooting at it: if it were flying at 25 knots it might prove to be too elusive for a single shot direct-fire weapon; whereas a 400-knot flight in the vicinity of a radar-controlled gun position might spell disaster for the pilot and aircraft occupants.

Even though, without specific information regarding opposing weapons, there is no positive way of plotting relative vulnerability of an aircraft as a function of speed, it is a reasonable assumption that the faster it is traveling, the less vulnerable it will be. This is not only true because it should be harder to hit, but speed also reduces the time it is "running the gauntlet," so to speak.

We might assume, therefore, that other factors being equal, the more forward speed potential an aircraft has, the better will be its chances of survival over the battlefield. But since there is no way to place a quantitative value on this factor without knowing something of opposing weapons numbers and characteristics, the other factor, work potential, must receive considerable

weight in evaluation of the different VTOL types.

Work Potential

The standard measurement of work potential for aircraft is ton miles per hour capability. Before that can be determined, however, several factors about the aircraft must be known, such as cruising speed, payload and fuel consumption rate per mile. To better illustrate the difference in work potential of various VTOL types, hypothetical aircraft of each type have been basically designed.

The only constant factor practical to establish is gross weight. As indicated in Figure 10b, with a constant gross weight, empty weights and useful loads will be different for each type. This is because structure weights vary with mechanical complexity; and, as shown in Figure 10c, power requirements for the various types differ considerably, hence weight of engines must be taken into consideration.

It is assumed that each type aircraft is powered by the same type shaft turbine, with different power requirements being met by installation of different numbers of engines. An average specific fuel consumption figure (pounds of fuel consumed per hour by each horsepower developed by the engine) of .7 is used for each type aircraft. It is obvious that overall fuel consumption will vary between aircraft because of difference in their horsepower requirement.

The group of aircraft set forth here all have a gross weight of 20,000 lbs. and are of transport configuration. They all carry a 2-man crew weighing 400 lbs. total plus adequate reserve fuel to fly 15 minutes at cruising speed and enough fuel aboard to hover 5 minutes per mission. They all have adequate fuel tank capacity to carry fuel as their entire allowable load. They use 80 percent of take-off power for cruising flight. Payload is carried in one direction only on each trip.

NOTE: The performance figures stated for these hypothetical aircraft are representative of trends only and should not be interpreted as performance data for any actual aircraft either in existence or proposed.

Figure 11a shows how such a group of VTOL aircraft might compare

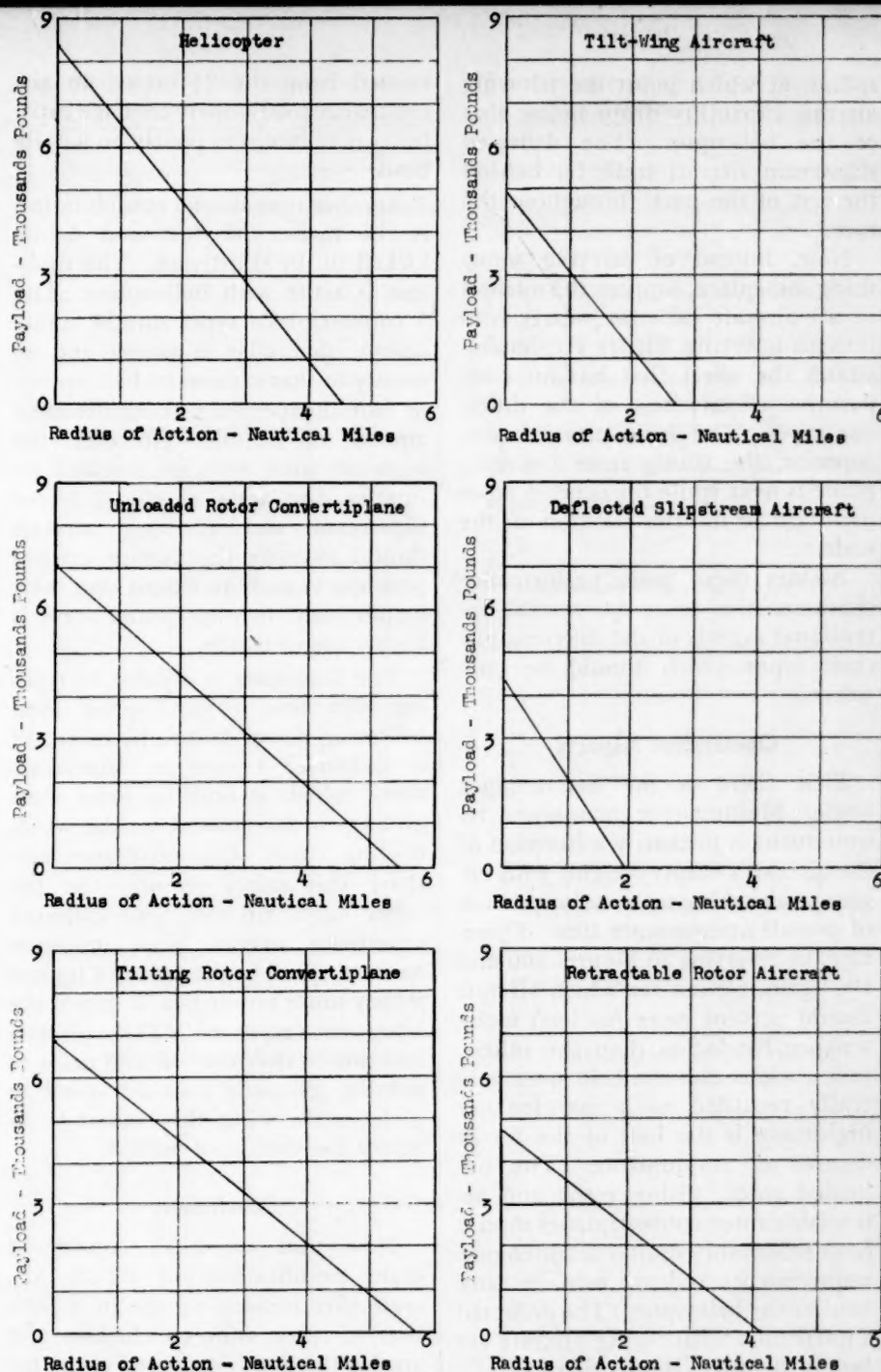


Figure 11a—Predicted payload/distance capability of various types VTOL aircraft when all gross 20,000 lbs.

with each other in carrying payload at varying distances. As you can see, the helicopter is superior up to a distance of just over 200 nautical miles radius of action. At that point the tilting rotor and unloaded rotor convertiplanes take and hold the lead out to maximum radius of action. The retractable rotor airplane gives a good account of itself at the longer distances because of its speed advantage, but it isn't able to overcome the initial disadvantage of reduced payload resulting from greater empty weight. The tilt-wing and deflected slipstream aircraft never pose

much of a threat to the other types.

The scales shift slightly when time is cranked into the problem. Figure 11b shows predicted tonnage movement per hour capability of the different type VTOL aircraft at varying radii of action.

Performance in this respect is practically identical for the tilting rotor and unloaded rotor convertiplanes. The retractable rotor aircraft overtakes the helicopter at approximately 100 nautical miles and stays with it thereafter. The helicopter and tilt-wing aircraft have similar capability to about 150 miles

radius, at which point the tilt-wing aircraft capability drops below that of the helicopter. The deflected slipstream aircraft trails far behind the rest of the pack throughout the race.

Now, instead of carrying something someplace, suppose the mission of all aircraft calls for nearly continuous hovering. Figure 11c demonstrates the effect that has on comparative effectiveness of the different types. The helicopter remains superior, the tilting rotor convertiplane is next while the other 4 types maintain an inferior position on the scale.

Besides these basic performance characteristics, there are several operational aspects of the different aircraft types which should be considered.

Operational Aspects

First there is the maintenance angle. Maintenance manpower requirement is primarily a function of the aircraft's empty weight, with engine work taking up a major portion of overall maintenance time. Therefore, by referring to Figures 10b and 10c again, we can see which aircraft should present more (or less) maintenance headaches than the others. It is obvious that the helicopter generally regarded as a maintenance nightmare is the best of the lot in regards to maintenance. The unloaded rotor, tilting rotor and retractable rotor convertiplanes should have reasonably similar maintenance requirements and are next in rank behind the helicopter. The deflected slipstream and tilt-wing aircraft are last in desirability in this respect.

Since maintenance requirements reduce the number of hours per day that an aircraft is available to perform work, the tonnage movement per hour trend illustrated in Figure 11b cannot be expanded to daily tonnage movement capability by merely multiplying by a factor of 24. After maintenance time is sub-

tracted from the 24 hours, an aircraft with good hourly tonnage capability may fare very poorly on a daily basis.

Another operational consideration is the matter of dust and debris kicked up by slipstream. The problem is acute with helicopters. The 3 convertiplane types should create downwash similar in pattern and intensity to that created by helicopters, so should experience about the same amount of trouble. However, the high air mass velocity dictated by smaller disc areas of the deflected slipstream and tilt-wing aircraft should magnify the already critical problem to such an extent that their employment in unprepared areas is highly questionable.

The helicopter is capable of landing with zero forward speed, even following power failure by means of a maneuver known as "auto-rotation," which is nothing more than gliding to the ground on the windmilling rotor. Convertiplanes also share this safety feature. On the other hand, tilt-wing and deflected slipstream aircraft must maintain forward speed to the point of impact if they suffer power loss. If one of the latter two types of VTOL aircraft lose power after take-off and prior to gaining adequate forward speed to glide on the wing, they would be in a very awkward spot indeed.

Conclusions

Now that we have considered many ramifications of VTOL aircraft effectiveness, we are in a position to reach some conclusions and answer the questions posed at the beginning of this discussion.

a) How important is speed capability as a comparison factor? In a combat situation, where the aircraft are expected to operate in the vicinity of enemy gun positions, speed may be the most important consideration, even if it means sacrificing considerable payload to achieve it.

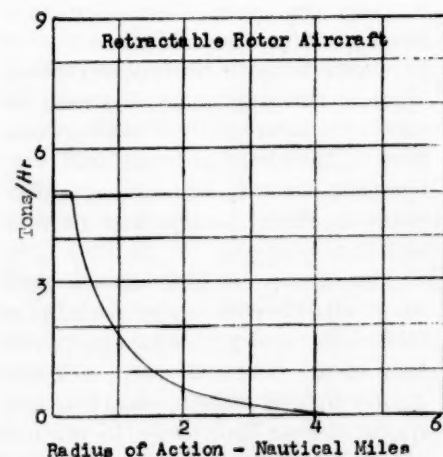
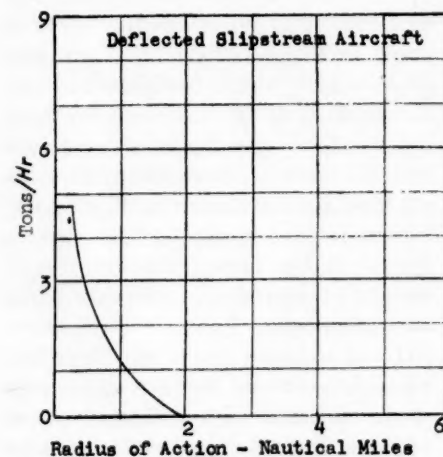
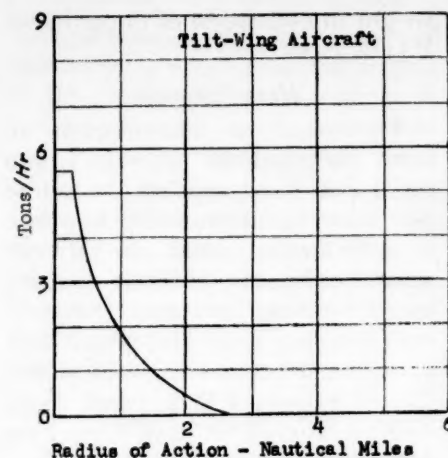


Figure 11b — Predicted tonnage VTOL aircraft when

However, if the aircraft are to operate over real estate controlled by friendly forces or are expected to provide logistic support in peacetime only or the commander has confidence in the ability of escorting fixed wing aircraft to neutralize enemy gun positions, primary consideration should be given to tonnage movement capability of the transport VTOL aircraft.

b) Is there a basis of comparison

Acknowledgements

The author is deeply grateful for the assistance he received while compiling data and photographs for this article. He especially wishes to thank Bell engineers **Lichten** and **Graham** and McDonnell engineers **Doblhoff** and **Novak** for their invaluable criticism of the original manuscript. **Maj A. J. Clapp**, until recently with the Air Section of the Marine Corps Development Center, is now in the office of the Secretary of the General Staff, HQMC.

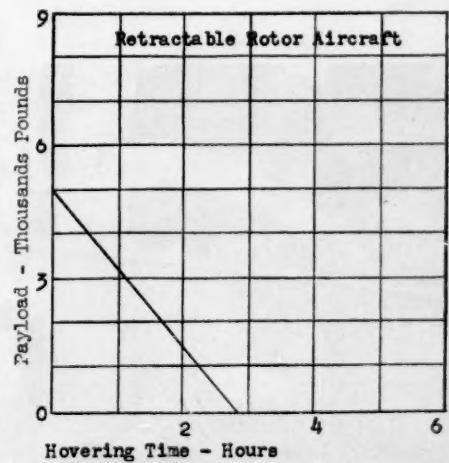
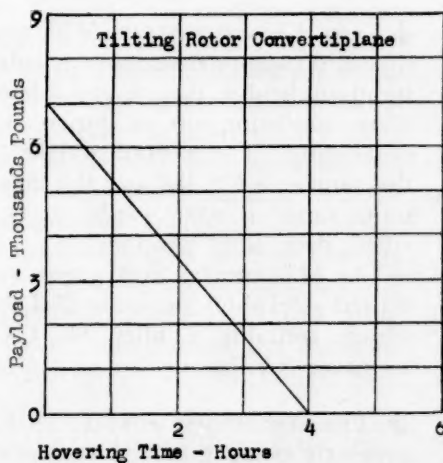
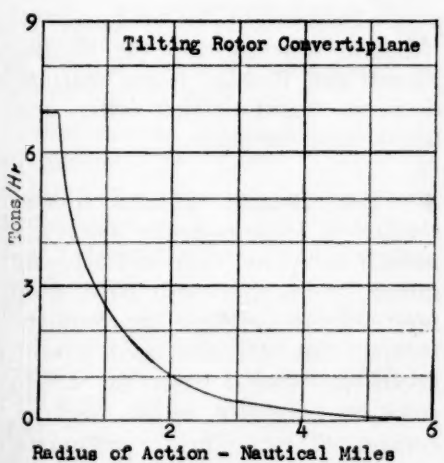
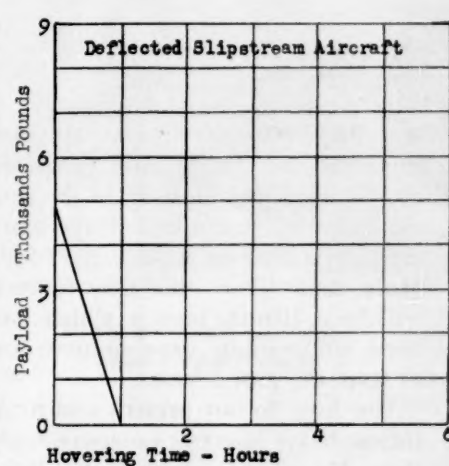
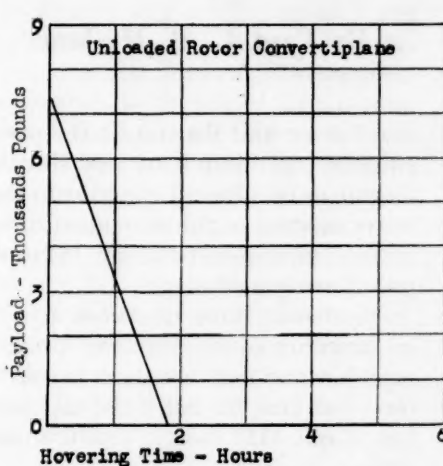
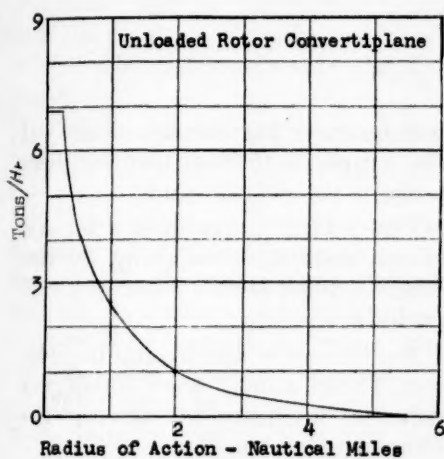
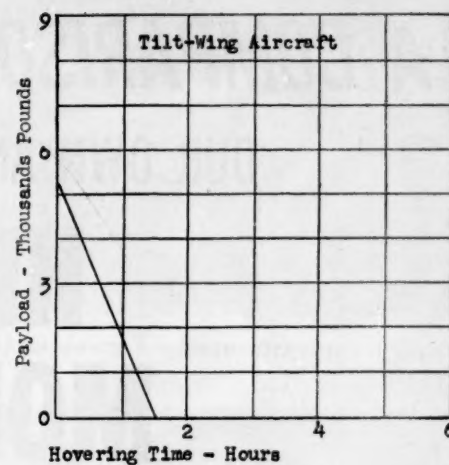
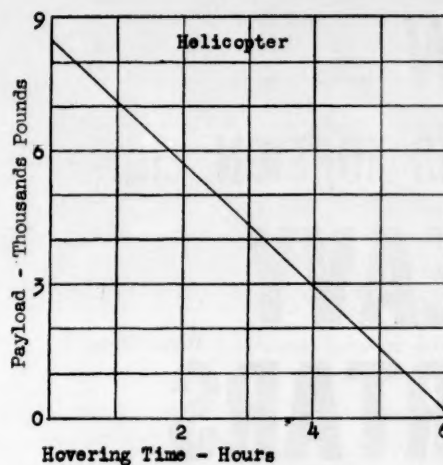
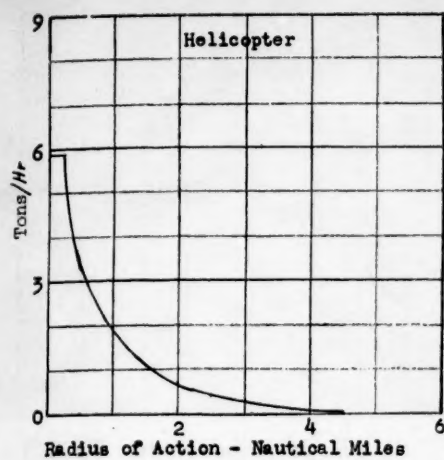


Figure 11c — Predicted payload/hovering time capability of various types VTOL aircraft when all gross 20,000 lbs.

movement capability of various types all gross 20,000 lbs.

among VTOL aircraft better than speed alone?

Excluding the vulnerability aspect, the answer is definitely "yes." Besides work potential, the various type aircraft should be compared from the standpoint of maintenance requirements, degree of preparation required for operating areas and relative safety in power-off emergency landings.

c) Are the newer type VTOL air-

craft likely to render the helicopter obsolete in the Armed Forces?

No. None of the other types are apt to be developed to the point where they will be more efficient than a helicopter for sustained hovering or short range trips. Helicopters should also retain their lead in lower maintenance requirements.

d) In view of the above, is money being wasted in developing some of the VTOL types?

No! All VTOL aircraft types that have been considered here have possible potential application within the Armed Forces. From where we sit, some look more promising than others; but that in itself is not justification for abandoning research and development on some of the less attractive concepts. Until hardware of each type has actually flown and all the returns are in, it is still anyone's race.

USMC

A COMPARISON . . .

OUR OWN AND FOREIGN

HEAVY

MORTARS

By Capt C. B. Haslam

THE PRESENT HEAVY MORTAR employed by the Marine Corps is the 4.2-inch M30 mortar. In the not too distant future a new heavy mortar will appear to replace the M30. More than likely this new mortar will be a 105mm mortar which has been undergoing development for at least the past 5 years.

Just how do our present and near future heavy mortars compare with those being utilized by Great Brit-

ain, France and Russia? Is the present M30 mortar and any new 105mm mortar to be adopted superior to the heavy mortars of the aforementioned nations in respect to range? Lethality? Transportability?

To answer those questions it will be necessary to examine the foreign-type mortars and list their capabilities. But first, let us list the capabilities of our M30 mortar and the new 105mm mortar.

THE 4.2-INCH MORTAR, M30, consists of 6 components; namely, tube, standard, bridge, rotator and a baseplate consisting of an inner and outer ring. The overall weight of this mortar is 626 lbs. and the maximum range is 6,000 yards. It is a rifled, drop fired weapon.

The M30 mortar fires a spin stabilized steel shell weighing 26.3 lbs. which contains a filler of TNT weighing 8.5 lbs.

THE NEW 105MM MORTAR, T33E3, presently being groomed to replace the 4.2-inch, M30, is a smooth bore, drop fired weapon consisting of 3 main components; namely, the tube, one-piece circular baseplate and bi-

pod mount. The overall weight of this weapon is 465 lbs. Its maximum range is about 6,000 yards.

The T33E3 mortar fires a fin stabilized steel shell weighing 25 lbs. which is filled with 7.3 lbs. of Composition B.

Both the M30 mortar and the 105mm T33E3 mortar have 360-degree traverse capability by moving the mounts and tubes.

Neither mortar has, as an integral part, a lightweight cart for transport.

Let us now turn to the British, French and Russian heavy mortars, to be discussed in that order, and briefly describe them.

THE BRITISH 4.2-inch mortar consists of 3 components; namely, a mobile baseplate, tube and a tripod mount. It is a smooth bore, drop fired weapon weighing approximately 1,125 lbs. Of this total weight, about 925 lbs. is baseplate weight since the baseplate, in this instance, consists of two wheels, pneumatic tires, drawbar and, of course, the baseplate. During firing the wheels are retracted but they are not removed.

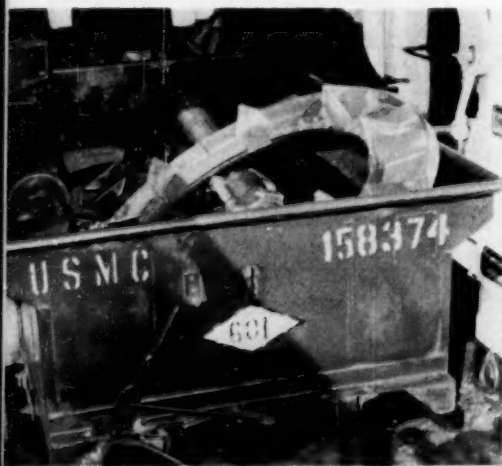
The British 4.2-inch mortar fires a fin stabilized "cast iron" shell weighing 30 lbs. filled with 4.2 lbs. of amatol and TNT to a maximum range of 4,150 yards.

This mortar is not capable of traversing 360 degrees.

THE BRANDT, 120mm mortar (French) consists of 4 components; namely, tube, baseplate, bipod mount and a wheel assembly. It is a



The 105mm Mortar, T33E3



4.2, M30 — a wheeled cart would be easier



4.2, M30 broken down for man-carrying — too many pieces

smooth bore, drop or trigger fired mortar weighing 1,005 lbs. This mortar may be fired from the wheel assembly or, if preferred, may be quickly detached from the wheel assembly and fired from its bipod. The wheels are equipped with puncture-proof tires. When detached from the wheel assembly the mortar weighs 570 lbs.

The Brandt 120mm mortar fires two fin stabilized steel shells. The heavy shell weighs 37 lbs. and is filled with 9.42 lbs. of TNT and the light shell weighs 28 lbs. and is filled with 5.5 lbs. of TNT. When firing the heavy shell the maximum range is 6,100 yards; whereas the light shell will reach out to a distance of 7,500 yards.

The Brandt 120mm mortar is capable of 360-degree traverse.

THE RUSSIAN 120mm mortar consists of 3 components; namely, the tube, baseplate and bipod mount. It is a smooth bore, drop or trigger fired weapon weighing 605 lbs. in firing position. This mortar is transported on a cart equipped with puncture proof tires but the weapon cannot be fired off this cart.

The Russian mortar fires a 35-lb. "cast iron" shell filled with 3.5 lbs. of Amatol and TNT to a range of approximately 6,600 yards.

This mortar realizes 360 degrees of traverse.

From an analysis of the aforementioned mortars it is only too clear that US mortars are a poor second when compared to the range capabilities of the French and Russian mortars. The extreme maximum range of the 4.2-inch mortar, M30, is only 6,000 yards. Likewise, the new T33E3 mortar is presently not capable of surpassing the 6,000-yard range of the M30 mortar. Therefore, until something better is developed it is quite clear that we are, of necessity, to be content with what we have at our disposal.

Until that time comes we are placed at a decided disadvantage since the Russian mortar outdistances us by at least 500 yards. On the surface this does not appear too alarming; however, it has been strongly rumored that the drawings of the French Brandt 120mm mortar disappeared under somewhat mysterious circumstances many years

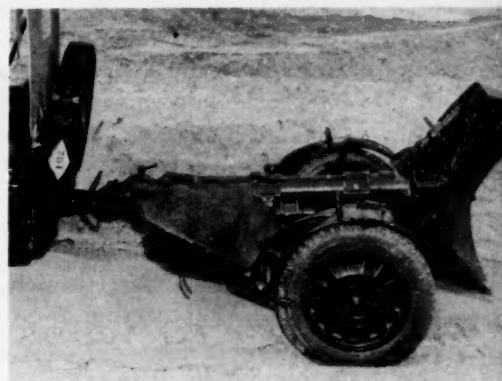


The Brandt 120mm Mortar broken down for man-carrying

ago. Also, the Russian 120mm mortar resembles the Brandt in some respects. As previously mentioned, the Brandt can reach out to 7,500 yards and there is no reason to believe that the Russian 120mm mortar cannot do the same. As a matter of fact, the figure of 6,600 yards, used in reference to the Russian mortar, may be conservative since reports have been circulating that a new modified version of the Russian 120mm mortar has a maximum range of over 8,000 yards. If this be true then there might be good reason to be concerned over the range differential between the US and the Russian mortar.

LET US NOW TURN to the comparative lethality of the heavy mortar shells. Immediately we can eliminate the US and French shells from this department of lethality since their shells are made of machined steel and we are all familiar with the unimpressive fragmentation effects of machined steel shells. On the other hand, we cannot discount the fragmentation effects of cast iron, and cast iron is what the Russians and British use in their mortar projectiles.

It is well known that, of the mortars under discussion, the Soviet 120mm mortar shell produces the most fragments, and is closely followed by the British 4.2-inch mortar shell. Running last are the French machined-steel shells and US 105mm mortar shells and the 4.2-inch M30 shells. The fragmentation differential between the cast iron and steel shells is almost unbelievable; almost 10 times the number of fragments are produced from the cast iron shells over like shells of machined steel. One must not overlook the fact that the Russian shells contain less than one half the amount of ex-



Brandt—easy towing, rapid emplacement

plosive that we use and yet they get 10 times the fragmentation.

HAVING DISPENSED with range and lethality, let us now enter the realm of transportability. The 4.2-inch M30 mortar is transported in a number of ways. Usually, for rapid displacement, it is placed in a 1/4-ton trailer which is then towed by men or truck. Or it may be placed in a 3/4-ton truck together with its ammunition. For man-carrying, it breaks down into more pieces than the 8-man squad can handle during its initial displacement. At least one piece, usually the outer baseplate ring, has to be left behind and then brought up later. No ammunition can be carried. The 8-man squad, displacing on foot, has one of two choices; either move the mortar and leave the ammunition or take the ammunition and leave the mortar. Both cannot be accomplished at once.

The new 105mm mortar, weighing 465 lbs., is an improvement over the M30 mortar at least with respect to weight. It, too, has no integral mortar cart for rapid displacement, but reliance will once again be placed on the 1/4-ton trailer or the

3/4-ton truck. For man-carry there is improvement since only the tube, baseplate and bipod will have to be moved. This means that several rounds of ammunition may be carried along with the sight and aiming stakes.

The British 4.2-inch mortar, since it is mounted on a mobile baseplate, can be rapidly displaced either by a 1/4-ton truck or by men towing it. However, since the mortar cannot be removed from its wheels it may not be man carried.

The French Brandt, 120mm mortar may be rapidly and easily towed by a 1/4-ton truck or by men. In the case of the Brandt, at least two rounds of ammunition can be carried with the mortar during displacement. However, once removed from its wheel assembly the mortar breaks down into 3 parts which weigh 570 lbs. Man-carrying these

components precludes the carrying of ammunition since the weight is such as to necessitate at least 7 men to hand carry the pieces.

The Soviet 120mm mortar is displaced very rapidly by means of either a small truck or by men towing and without its cart the mortar breaks down into less components than the US M30 mortar.

Of the 4 mortars it would not be unreasonable to state that the foreign mortars except the British 4.2-inch, mounted on their carts, are more easily displaced by men than the US mortars when they are placed in a 1/4-ton trailer. Also, it would not be unreasonable to state that, for man-carrying, the US 105mm mortar, T33E3, would be the easiest to displace when on foot.

Such characteristics as accuracy, ease of shifting fire, cross leveling mechanisms, sights, etc., have not

been discussed since, except for accuracy, they may be fairly easily incorporated into any mortar. As far as accuracy is concerned it is sufficient to state that all the mortars discussed hold their own. At some ranges the US mortars are the most accurate, but at other ranges the foreign mortars take over the lead.

Of the 3 departments discussed we can see that one US heavy mortar ranks first only in man-carrying portability. Except for that portion of one field the US heavy mortars are indeed inferior. They lack range and transportability but more important they lack *lethality*.

The foreign mortars discussed are excellent weapons and contain a large number of desirable features that we should exploit to the fullest extent in our search for not a suitable, but the *best* heavy mortar.

US MC



Follow Me

☛ In 1927 it was my pleasure to serve with the 6th Marines in China, in the same battalion as the late Capt (LtCol) Cukela. At one of his lectures, which I remember was at the time the brigade was alerted for defense of Tientsin, the Captain addressed the company, "Men of the 75 Company, maybe we have a war—if we do and you follow the 1st Sgt, you come back dead; you follow me, by golly, you come back mit medals."

SSgt A. D. Culbertson

Use Your Head

☛ As I ENTERED the washroom in Building 31, San Diego Recruit Depot to wash my hands, two dungareed "casuals" were huddled over a slip of paper.

The taller of the two, with pencil in hand, turned to me and said, "Say, Sarge, how do you spell secured?"

"S E C U - - -," I started.

"Secured," the second Marine questioned quickly, "You figure people will understand?"

"Yah," said the first Marine.

"Sarge, how do you spell 'closed?'"

MSgt R. E. Johnson

Economy Drive

☛ BEFORE KOREA, members of the 2d Combat Service Group could get haircuts for a quarter. During an inspection, the Colonel was about to compliment a sharp Pfc on his starched utilities and shined boondockers when he noticed the man's hair was a bit shaggy. Not wanting to put a man on report who had obviously made such an effort, he leaned close to the lad and whispered, "Son, do you have 25 cents?"

The startled Marine looked at the Colonel for a moment before blurting out, "Yes Sir, but I was saving it to get a haircut."

TSgt A. G. Mainard

Off We Go

☛ WHILE SEAGOING aboard the USS *Enterprise* in 1938, we had to take a written and oral test for promotion from private to private first class and part of the oral test was "close order drill" so one day on the flight deck one of the privates was giving a squad of men close order drill while one of the lieutenants was observing. The private got a little shook looking at the lieutenant then at the squad of men which was marching toward the bow of the ship and not able to think of a command, he raised up both hands, high in the air just when the men were about 2 places from the edge of the flight deck and yelled "WHOA." The squad stopped and took a deep breath; so did the private.

MSgt M. A. Dringo

(The GAZETTE will pay \$10.00 for each anecdote published. Submissions should be short and pointed.)



OKINAWA RESCUE—The 28-man crew of an Army tug was rescued by a Sikorsky H-19 of the U. S. Air Force's Air Rescue Service after the tug was wrecked on a reef

off Naha, Okinawa. The tug went aground aiding the Army coastal tanker in the background, also stranded on the reef.

AROUND THE WORLD WITH SIKORSKY HELICOPTERS



WORLD'S FASTEST—A Marine Corps Sikorsky HR2S-1 has set a world record of 162.7 mph. Flown by Major Roy L. Anderson, left, and Robert Decker, Sikorsky test pilot, the HR2S also set new records carrying 13,250 lbs. to 7,000 feet (surpassing a Russian record), and 11,050 lbs. to over 12,000 feet.



NEW RADAR HELICOPTER—Under development for the Navy by Sikorsky Aircraft is this HR2S-1W helicopter with radome accommodating search radar gear. It can extend radar coverage beyond the range of shipboard radar or land-based radar picket aircraft.



SIKORSKY AIRCRAFT

BRIDGEPORT, CONNECTICUT

One of the Divisions of United Aircraft Corporation



The Comptroller is a key figure in developing the financial plan for a station or a command

By LtCol P. H. Millichap

☛ THERE ARE TWO VITAL ELEMENTS in the production of any commodity or service which can be borrowed from the business world and utilized in considering financial management of an organization such as the Marine Corps. The first element is the *quantity* of the item produced. We may be turning out 500 trained recruits per week, painting 500 sets of quarters per year, or repairing 5,000 rifles per month. Such quantitative elements of workload can be used as guides for future planning and to measure effectiveness of past performance. However, there is a second vital element which cannot be ignored. That is, the *quality* of the item produced. Comparison of costs of items produced will often lead one to false conclusions when standards of quality are not taken into consideration. Quantitative measures of workload are available for some Marine Corps functions, but standards of quality are more elusive and will vary with the individual making the appraisal.

These evaluations of quantity and quality loom very important in the evaluation of any financial plan or review of financial operations. In the light of the product the Marine Corps has to sell, we find the intangibles much more important than the tangible measures of production. How does one appraise the value of a well-trained Marine? Can a price tag be placed upon esprit and a willingness to fight in defense of our country? Consideration of these elements make it hard to utilize the management practices of a large corporation as they relate to the production and selling of a wide range of items. While we desire to operate the Marine Corps as economically as possible, it should never be said that economy is our primary goal. The maintenance of a force in readiness over many years can never be considered in the same light as a large growing industrial enterprise. Having pointed out some differences between a military organization and a business enterprise, it must be

stressed that wastefulness and laziness cannot be tolerated and that sound business practices have direct application to military operations in many areas.

Let us then turn to some basic dollar facts about the Marine Corps. How much do we spend each year? What is the amount already invested? What is the annual workload? Can the workload be related to the dollars provided and a measure of performance derived?

The Marine Corps spent over one billion dollars during fiscal year 1956. As would be expected; pay, subsistence and clothing of Marines is the largest single element, some 670 million dollars. About 200 million dollars will be spent for major items of ordnance, motor transport, electronics and engineer-type equipment. Another 160 million dollars will be spent from the Marine Corps Troops and Facilities appropriation. This appropriation supports the purchase of Stock Fund items, pays some 16,000 civilian employees and

finances other service charges. In addition, Marine Corps aviation receives 90 percent of its operating support from Bureau of Aeronautics funds and large construction projects at Marine Corps stations are financed under Military Construction, Navy programs. There is over 1.1 billion dollars worth of material in Depot Stocks. The inventory of Plant Account which includes land, buildings and equipment amounts to 300 million dollars. Equipment in the hands of using organizations is valued at over 400 million dollars. Cold dollar statistics may be of little interest, but I cite them to stress the point that the Marine Corps is a big dollar investment which requires that we increase emphasis upon our internal financial management.

How do we then relate this investment and annual cost to the job to be done? The most significant workload figures available relate to personnel strengths and combat troop units supported. Workload statistics for supply operations, camp maintenance, or repair and overhaul operations are an aid in the support of budgets, but cannot be used on an overall station basis. Our inability to devise a single measure of workload for a station or command should be recognized. We must develop a number of programs at Headquarters Marine Corps and at station level which, when priced out, become the budget and financial operating plan. It then becomes necessary that financial planning be exercised by each Marine Corps organization generating an action which eventually creates an expenditure of funds.

Financial planning must stem from a program of the work to be done. Such programs should extend over several years. Without programs, it is futile to attempt to

achieve the goals and accomplish the missions with which we are charged. The Comptroller is a key figure in developing the financial plan for a station or command based upon the programs developed by the staff. Such plans must be adequate and include all needs to allow optimum accomplishment of all programs. Watchdog functions of the Comptroller are important for the protection of the commander, however, this aspect should not be overstressed to the extent that mission accomplishment is delayed and backlogs created.

The Comptroller should also function as an expeditor and be ready to point out areas requiring action. Programs for plant replacement, equipment overhaul and facility improvement should be encouraged and be based upon sound analysis of various courses of action. Backlogs created by lack of funds, shortage of personnel, or just plain forgot, must be highlighted and programmed for future accomplishment.

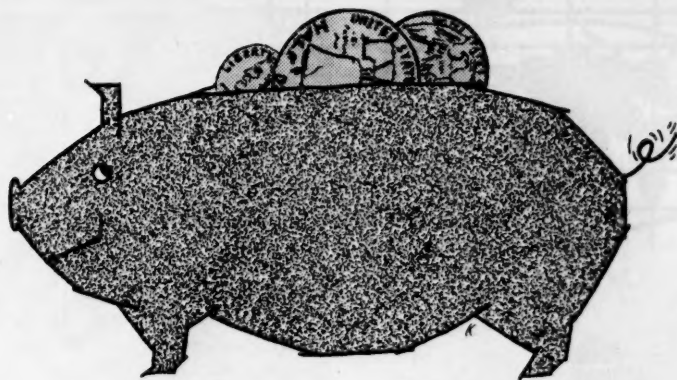
The difficulties of financial planning are recognized at all levels. No one can be blamed for changes in plan, or if a forecast is not completely accurate. We can be severely criticized if we have no plan at all, or fail to energetically carry out the plans that we do have. We must attempt to identify and plan broad

programs at our stations in order to be better able to identify backlogs and to shift funds and personnel to meet changes in workload or program objectives.

Financial operations at the station level can be greatly aided by a division of costs into those which are fixed, those which are semi-variable, and those which vary directly with some measure of workload. Fixed costs will continue at the same level no matter what the workload. Semi-variable costs vary with workload, but at a slower rate of increase or decrease than the workload change. Variable costs vary directly with the workload change; for example, if the workload increases 10 percent, variable costs likewise increase by 10 percent. Monthly, quarterly, or annual charges for a particular operation at various levels of workload may be determined by division of costs into the above elements. Planned workloads may be applied to these past elements of cost for budget purposes. All station commanders should know how much it will take per month, quarter, or year to operate and which elements of these costs are fixed.

In conclusion, one can be sure that pressure to reduce spending will continue if the world situation remains relatively stable during the next few years. It is the responsibility of every Marine to insure that we get the most out of every dollar we spend. Financial management practices as applied to business or military problems must first stand the test of common sense. We can't all be experts in management engineering and accounting, but we should try to make sure that every action which results in a dollar expenditure is considered in relation to the overall readiness of the Marine Corps to fight.

US MC

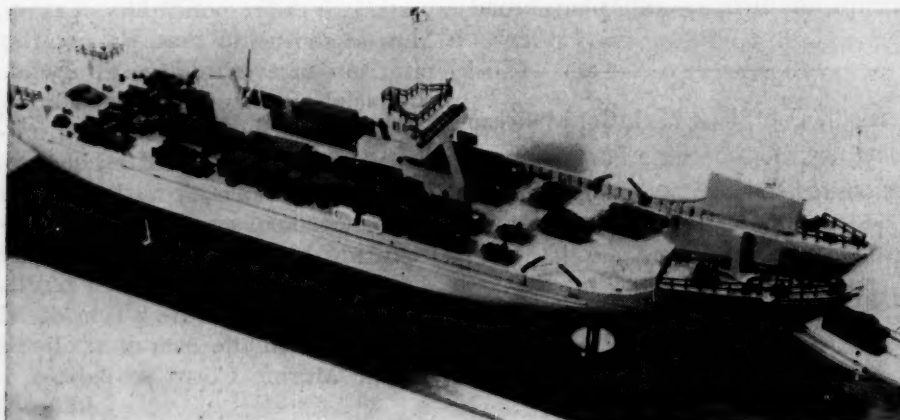


As Asst Head, Opns Branch, Services Div, Supply Dept, HQMC, LtCol Millichap comes into daily contact with the continuing need for adequate financial management in the Marine Corps. Because he desired to have something published on this subject in its day-to-day applications throughout the Corps, he has written this piece. Commissioned with 5th ROC he served throughout WWII with the 2dMarDiv, being awarded the Bronze Star for his part in the Tarawa operation. Prior to WWII he attended the Wharton School, Univ of Penna. and in 1951 he received his master's degree in Business Administration from the Harvard Business School.



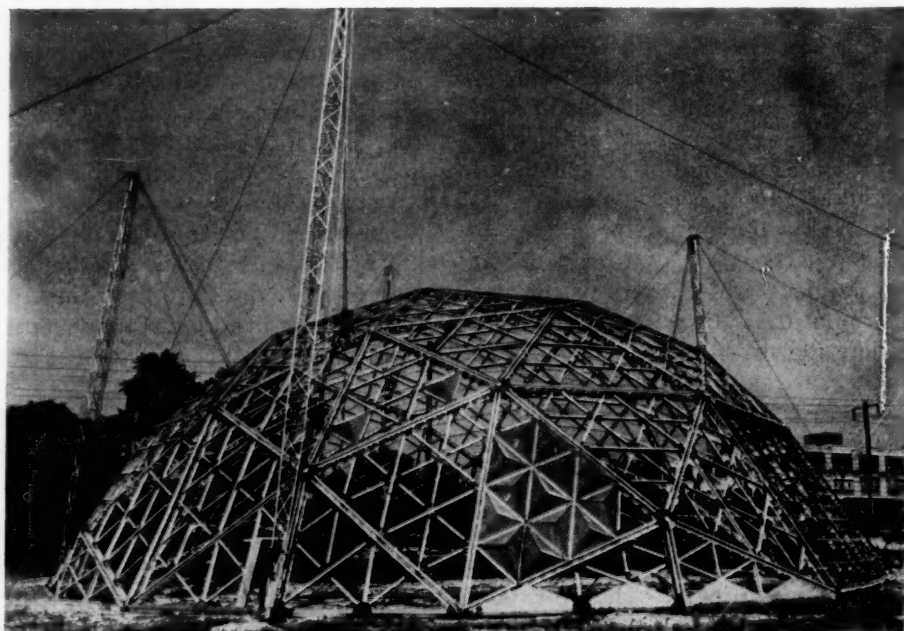
Now in the final stages of development is a one-shot, 26½-lb. flamethrower (above) which was developed for the Army by the Aerojet-General Corp. Its light weight makes it especially suitable for use by air-lifted troops. A remote-firing device adapts the weapon for defensive situations such as flank emplacements or for use as a booby trap. The capacity of the flamethrower is 2 gallons of either thickened or unthickened fuel. It may be fired from any position.

The Army is now building a 338-foot High Speed Beach Lighter (below). Vehicles can be driven directly on to the ship from a "roll-on roll-off" ship as the lighter is equipped with a stern designed for that purpose. To unload, it approaches the beach as does the LST and lowers its bow ramp which leaps to the upper deck where the vehicles have been formed ready for debarkation.

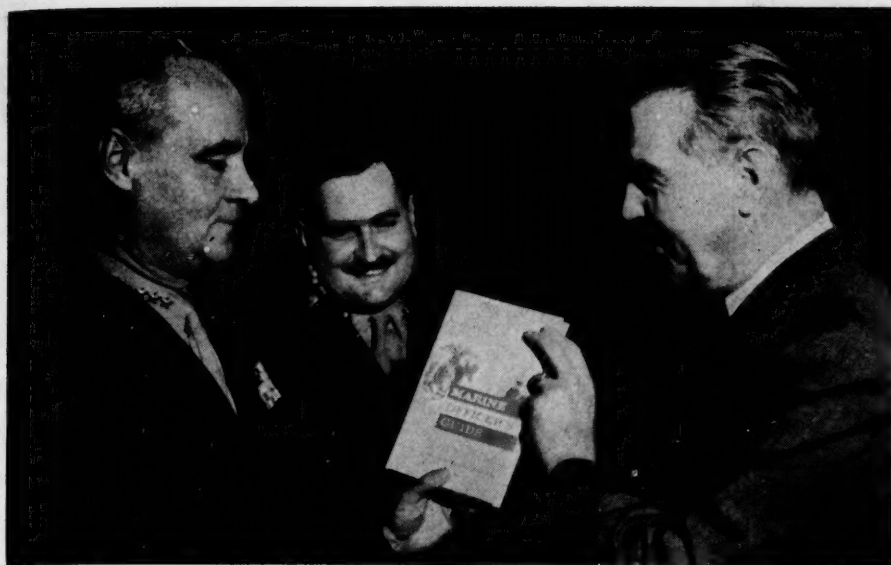


Charles J. V. Murphy, editor of *Fortune*, in his article, "Eisenhower's Most Critical Defense Budget," shows an easily-understood example of the rising cost of putting a man in uniform. The expense of enlisting, clothing, housing, feeding, equipping and transporting one American soldier (to say nothing of training) is now between \$12,000 and \$13,000 and promises to rise to \$16,000 as more costly weapons are developed and utilized. The comparable figure two decades ago was \$2,700. These are the figures used by Asst Sec Def W. J. McNeil in presenting the Defense budget for the next fiscal year.

Copies of the *Marine Corps GAZETTE 1956 Index* are available at no cost by writing to the GAZETTE Business Office, Box 1844, Quantico, Va.



The Washington Aluminum Company is now building the largest geodesic domes to date. Under a Marine Corps contract the company is building the structures with a diameter of 117 feet and a height of 46 feet (above). It has no support other than that of the shell itself. The dome can withstand 150 mph winds. It is well suited for use as a front-line aircraft repair hangar as it can be broken down into small components which can be air transported. The dome is made up of 80 triangles. Assembly is initiated with the top of the dome resting on the ground.



✿ Authors Gen G. C. Thomas (Ret) and Col R. D. Heintz presented LtGen M. B. Twining with the first copy of their new *Marine Officer's Guide* at a publisher's luncheon held at the Marine Corps Schools. (L to R, Gen Twining, Col Heintz, Gen Thomas)

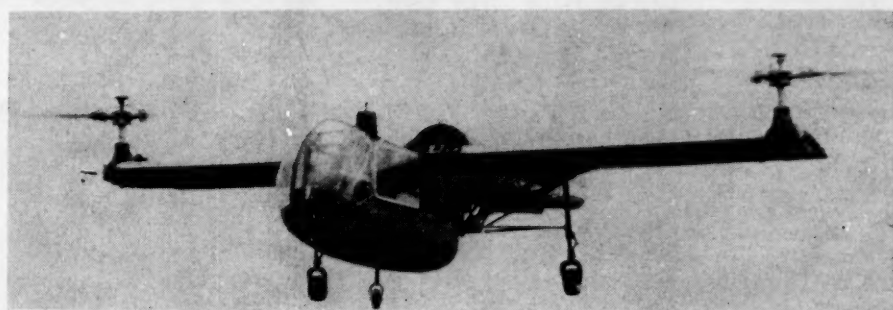
Written jointly by Gen Thomas, RAdm Ageton USN (Ret) and Col Heintz, the authoritative volume is the result of over 3 years of research and preparation. It provides a source of reference material at officers' level for everyone.

After looking over his copy Gen Twining called it the "officers' how-to-do-it book."

The *Marine Officer's Guide* was published by the US Naval Institute and the Marine Corps Association is acting as distributor for the Marine Corps.

✿ The sergeants major at Cherry Point have initiated a program of honoring the top graduate of each class at the Staff NCO Leadership School there. Acting upon the belief that those qualities which enable a student to attain so high a position are worthy of recognition, the sergeants major, as representative senior SNCOs, purchase a swagger stick to be awarded the top man as a symbol of achievement. The presentation is conducted with suitable ceremony by the sergeants major. They use their own funds for the purchase of the swagger sticks, making the honor more meaningful than if unit funds were used.

✿ The mother of the last survivor of the 12-man group of Imperial Japanese Naval officers who took part in the battle for Wake Island, presented to MajGen Shapley the Wake Island flag which her son had brought home in 1943. LCdr Fukatsu left the flag with his mother against his return. He was killed in the battle of Leyte Gulf. The tattered and torn flag was positively identified by the label it had which reads, "Quartermaster Dept, US Marine Corps, 1939-40." The flag will be displayed at the Marine Corps Museum, Quantico, Va.



✿ Transcendental Aircraft Corporation has announced its Model 2 (above), successor to its Model 1G, convertiplane to have been fully converted from helicopter to conventional operation and back again while in actual flight. The new plane, developed for the Air Force, is said to combine the versatility of the helicopter with the speed and range of the more conventional fixed-wing craft. It is designed for supply, spotting, liaison and front-line rescue operations.

✿ BrigGen Elmer E. Hall (Ret), formerly one of the Marine Corps' best coaches, was honored when the football field at the Marine Corps Recruit Depot, San Diego, was named for him.

✿ LFM1, Training, and LFM4, Ships to Shore Movement are now available. LFM4, formerly Confidential, is no longer classified. Both manuals are now being distributed through normal channels.

Another manual, *The Polar Bibliography AFM 200-132*, produced for the Dept of Defense by the Technical Information Division of the Library of Congress, has been distributed. This manual lists and gives a brief resumé of publications dealing with the Arctic and Antarctic and results of experiments there with equipment and techniques.

✿ The first ship of the Navy's new 16-ship guided missile destroyer fleet has been commissioned. The vessel, the USS Gyatt (left), is capable of destroying an enemy attack whether by supersonic aircraft or the latest submarine. In addition to modern conventional ordnance, she carries twin Terrier guided missile launchers. It is the first ship to be equipped with the new stabilization system which eliminates much of the rolling characteristic of small ships. This is accomplished by the addition of two 45-square-foot retractable fins well below the waterline midships. The ship is a further example of the Navy's approach to economy, being a conversion.



CHINA AND FORMOSA



A WARNING FROM HISTORY

By Dr. Donald W. Meinig
Col Charles L. Banks

THE GREAT ARENA OF EAST ASIA is the stage for a remarkable sequence of events. In the vortex of a powerful political storm, the national government of China is shaky; a long war with Japan has recently concluded and the Chinese coast and Korea are once more in friendly hands. While fighting an alien power, much of the government's attention has been directed toward the suppression of rebellious groups within. The combined civil and in-

ternational wars have left the nation exhausted, taxes are burdensome and natural disasters of drought and flood have heaped afflictions upon the peasantry. Dissatisfaction is rampant; dissension in high offices apparent. Striving to recover, the national government is desperately challenged on another front.

The critical frontier now shifts to the north where a new opponent begins a relentless pressure. Hardy, disciplined, ruthless, thoroughly

steeped in the rigors of war, this group is made all the more powerful by able and determined leadership. With the Manchurian countryside under firm control, the outnumbered enemy skillfully defeats the national army which is strung out along the routeways and in cities. "Fifth column" tactics prove especially fruitful. The nationalists retire to block the critical passageway into Peking and the vital Northern Plain, but the invader is now in a formidable posi-

tion: Manchuria is consolidated, the Korean flank secured, and the northwest highlands overlooking the capital are an enemy redoubt, supported in depth by allies from Inner Asia.

A skillful, insidious propaganda campaign becomes an integral part of the enemy's operations. All the defects and failures of the national government are exploited and exaggerated while the invaders offer the lure of reform and an end to the grievances of the people. Intrigue, bribery and treachery run rampant. Influential nationalists go over to the enemy and the government is torn by dissension and distrust.

Under such pressures the northern front collapses, Peking falls, whole armies lay down their arms and the invader sweeps southward toward the Yangtse. The national government, which had originally drawn its strength from South China, seeks desperately to regroup and rally support. The old capital of Nanking is the scene of a momentary stand, but ultimately the enemy sweeps on to the southern borders. Support from a Western power proves too little and is never effectively employed. Resistance becomes fragmented with the main force retreating to the southeast coast. Here there is strength and hope for the conqueror who proved irresistible on land, is impotent on the sea. A fleet is gathered to carry thousands of national supporters to the numerous offshore islands, and Formosa becomes the main refuge for loyal Chinese who refuse to submit to the alien rulers. Rallied by an indomitable leader, these people gird their defenses and through command of Quemoy and other islands harass the mainland and exasperate the new government. As the invaders are unable to challenge on the seas, and as hopes dwindle that the island leader can ever deliver the mainland from its new rulers, a stalemate ensues.

Does all this have a familiar ring? Does this seem but a retelling of the melancholy events still so fresh in our minds? If so, do not credit your memories but credit the cycles of history. For the national government of this story is the Ming Dynasty, the conquerors who arise in the north and sweep over the mainland are the Manchus, the Formosan leader is Koxinga — and it all happened just



Japanese invasion of the Mainland, 1592 — Is history repeating itself in the 20th Century?

300 years ago.

This parallelism of events is so striking as to be worthy of our attention. It would be untenable indeed to suggest that the Chinese context of today is exactly as that which prevailed 3 centuries ago. There are basic differences, but certainly there is enough similarity in broad outline to make the story of the Manchu conquest of more than antiquarian interest. It may well serve to cast the modern situation into a fresh and revealing perspective.

THE MING DYNASTY, which lasted nearly 300 years, was in general an era of peace, prosperity and prestige. In several ways it was a unique regime. Unlike nearly all preceding dynasties, it originated in South China. The Yangtse Valley was its hearth and Nanking was its early capital and remained in many ways the chief center. Likewise, in contrast to an almost unbroken history of inward orientation, especially toward the critical northwest frontier, the Ming period is one of vigorous cultivation of trade and contact with the Southern Seas.

Despite its many achievements, the Mings eventually succumbed to that recurrent combination of internal decay and external pressures. Prosperity led to complacency and lack of reform, and when an inept bureaucracy, sinking ever more deeply into a morass of domestic problems, was challenged by a foreign power, the government found itself in mor-

tal crisis. The initial assault which paved the way for the ultimate disaster came from an old troublesome enemy. Piratical raids in northern waters were a chronic problem and by the middle 16th Century the entire coast was infested with Japanese corsairs. The problem assumed more serious dimensions in 1592 when the Japanese military leader Hideyoshi launched his audacious plan of conquering China itself. The wealth and prestige of China inevitably made her conquest the perennial dream of adjacent war lords whose visions soared beyond their local scenes. Hideyoshi was but one of many, before and after, who dared to entertain such glorious hopes.

The fate of Korea, as the overland bridge between Japan and Peking, has likewise had a long and melancholy persistence in history. Hideyoshi sought the acquiescence of this strategic country, but the Koreans were an unwilling vanguard and resisted the Japanese landing at Pusan. Unable to stem the invasion, they appealed to their historic protector for aid and a Chinese army was dispatched only to meet a crushing defeat at Pongyang. A second Ming army finally stopped the invasion but an indecisive struggle dragged on for 7 years, ending only with the death of Hideyoshi in 1598. Although the Japanese ultimately failed in their conquest, the attrition of the war plunged the Chinese government into critical internal difficulties. But, as in the modern ver-



sion of this historical drama, hardly had the Japanese struggle ended than a new challenger arose in the north, and domestic problems were necessarily deferred.

The Manchus were but one of the many nomadic peoples who inhabited the great steppe and desert belt which separates the Orient from the Occident. Pressures from that zone were nothing new to the Chinese as the Mongol Dynasty, to which the Ming was successor, attests. Prior to the later Ming period, however, the Manchus had been a relatively insignificant people tucked away in the

easternmost compartment of the steppe zone, the Manchurian Plain. Near the end of the 16th Century, however, events were shaping up which would ultimately bring to this obscure people a secure place in history. As was so often the case in the social and political contexts of the time, the mainspring of development was an individual—in this instance a brilliant leader named Nurhachu. Born in 1559, he succeeded his father to a position as minor chieftain at the age of 25 and soon enlarged his local fame.

Throughout this early period Nu-

rhachu remained submissive to Ming rule, sending annual tribute and receiving in turn favors and titles for keeping the Ming borders secure. As long as the imperial government was not challenged, such border chiefs were allowed a free hand in their own areas, and Nurhachu methodically enlarged his own power and wealth until he was dominant over all Manchuria beyond the Ming frontier. But there was always an incipient risk in this imperial policy. Nurhachu was a skillful administrator, but the basis of his success lay in his military genius and the momentary stability of Manchuria was the reflection of his feat of organizing his entire people into a formidable military structure known as the "Eight Banner System." It was almost inevitable that having forged such a ruthlessly efficient fighting machine, Nurhachu would look beyond his homeland for new fields of conquest. Again, China was the obvious prize and the apparent weakness of the Mings strengthened the temptation.

In the opening decade of the 17th Century, Nurhachu issued a public proclamation accusing the Mings of a long history of encroachment upon his homeland, and announcing his decision to conquer China. An audacious proposal this, for Nurhachu probably commanded not over 40,000 men. But quality and determination often outweigh quantity, and the Manchus were to provide the world with a memorable example.

While the Great Wall was the critical frontier shielding the North China Plain from the horsemen of the steppe, advanced defenses were often maintained for added security. The Mings had long been entrenched in southern Manchuria. Nurhachu's obvious first task was to shove the Chinese out of this northern zone. Complacent Ming commanders allowed a rapid clean up of marginal posts, and when a huge force was belatedly dispatched, the far outnumbered but brilliantly generated Manchus slaughtered, in turn, the 4 unco-ordinated Chinese armies.

The two great fortress cities of Mukden and Liaoyang, each well equipped for siege, fell in turn as their commanders made the mortal error of marching out to meet the Manchu bowmen in the field. Fol-

lowing up these successes Nurhachu shoved the Chinese remnants back along the narrow corridor between the mountains and the sea to the great bastion of Ningyuan. Here a prolonged siege proved unsuccessful and the invaders finally withdrew to revise their tactics.

After over 40 years of campaigning Nurhachu had met his first major defeat; 7 months later, in September 1626, the great Manchu leader died at the age of 67. This audacious warrior of the North who had so boldly announced his grandiose plan to conquer the great empire of the East had not so much as set foot on the soil of China proper. Yet he must be accorded a major measure of the credit for the ultimate success of his people. Starting as a minor tribal chieftain, at his death he left a unified people in a freed homeland, skillfully organized into a military machine and full of confidence based upon the harsh test of battle against the imperial armies. It was Nurhachu who had set the spectacular Manchu conquest in motion.

Tai 'tsong, eighth son of Nurhachu, succeeded to the leadership. His first move was to sweep over the Korean peninsula, to secure his flank and deprive the Chinese of an ally. After testing once more the Ningyuan defenses, Tai 'tsong sent his army westward through the Jehol mountains directly toward Peking. The badly outwitted Chinese were able to pull a portion of their armies back to shield the capital, but the impregnable forward fortress was flanked and the enemy was now entrenched in the hills overlooking Peking itself.

For 17 years the Manchus lay upon the periphery of the great Chinese Plain, with hardly a skirmish being fought. Bold and confident as they were, they could not yet afford a direct assault upon the heart of the Empire, for the Chinese were still far superior in numbers and not without capable leaders and strongly fortified defenses. The only real campaign was an expedition into the hill lands of Shansi province to the west, which drew in the support of the Mongol tribes under Manchu leadership, and resulted in a firm control over the entire northern and northwestern frontiers.

But though these were quiet years

they were neither uneventful nor unimportant, indeed, they were decisive. And once more the events have a familiar ring to modern ears. For as soon as his armies were in position and the flanks secured, Tai 'tsong began a skillful propaganda campaign. By the means of open proclamations to the Chinese, Tai 'tsong skillfully played upon all the grievances against the Mings. Actual conditions were bad enough and these were magnified in every possible way. Persons within the capital were bribed into betrayal, and an insidious rumor campaign cast doubt upon the loyalty of the Ming military command.

While steadily undermining the position of the national government, Tai 'tsong put equal emphasis upon his own virtues. He established model Chinese schools, administered the area under his control with well advertised efficiency, and displayed a well organized government. Desertions were encouraged, prominent Mings were welcomed, given an advance in rank, and put in the "show window" so that all could see the advantages of joining the winning side. Defections were aided by the breakdown of Ming organization, soldiers were left unpaid, supplies were often interrupted and as a result mutiny and wholesale desertion were not uncommon.

The deceptive "cold war" of the time was likewise an insidious factor working against the Chinese. While in reality every Manchu move was calculated toward the ultimate assault upon the Empire, the lull in the actual fighting gave the impression that the external threat had subsided, in contrast to the internal conditions which continued unimproved. Thus, the demand for reform overshadowed the need for concerted military preparations and defense.

In 1643 Tai 'tsong died at Mukden. In many ways the gross outline of his career paralleled that of his father, Nurhachu. Their objec-

tives were identical and neither lived to achieve them, yet each, in turn, had completed an essential stage toward the final conquest. The 17-year reign of the son had carried forward the momentum of the father. The latter had united his homeland and developed a small disciplined nucleus; his successor had greatly enlarged both the numbers and area under Manchu control. Although his assumption of the title "Emperor of China" was pretentious at the time of his death, Tai 'tsong was the leader of an impressive coalition of Manchus, Mongols, disaffected Chinese and subjugated Koreans, who were poised for the assault upon a weakened, defeatist government vainly attempting to hold together a disintegrating empire. Tai 'tsong's tactics had been as successful in peace as in war.

Indeed, the final crisis came in the following year, 1644, precipitated by an internal revolt in the West. A chronic economic depression and severe famine had produced a rampant anarchy of local bandits which the harassed Ming leaders were powerless to stamp out. From this morass of petty war lords an unscrupulous adventurer, Li Tseching, rose to leadership of a large army. His local success, coupled with the ever-widening public dissatisfaction with the ineptness of the imperial rulers, led him to aspire to the throne. Turning upon the Ming garrisons in the valley of the Yellow River he swept over them like a storm and marched boldly across the plain toward Peking. The government, faced with the hopeless task of defending the capital on two fronts, disintegrated. The emperor committed suicide, bringing his great dynasty of nearly 3 centuries to an ignominious close. The merciless Li Tseching marched virtually unopposed into the capital as waves of panic and terror rolled out before him.

There remained one final nucleus of government resistance. A highly competent young Ming general,

Dr. Meinig, Asst Professor of Geology at the Univ of Utah, was graduated from the School of Foreign Service at Georgetown and then received his master's and doctor's degrees from the Univ of Washington. His main fields of research have been in history and political science. While at Utah he has worked closely with, and lectured to, the NROTC unit there of which **Col Banks** is the Professor of Naval Science and Tactics.

Won Sankwei, was in charge of the northern defenses against the Manchus where he still had a loyal army under his command. In response to a desperate last-minute appeal from the emperor, Won Sankwei had withdrawn from the crucial Ningyuan fortress, and started toward Peking to block the rebels. While enroute he received word of the collapse of the government and the loss of the capital. Knowing that the rebel, Li Tseching, was holding his father as hostage (and had already taken his favorite concubine), the unhappy Ming general was now placed in a terrible dilemma. The Manchus had promptly moved into the abandoned frontier fortress, the rebel army was moving northward against him: His choice was either to await certain annihilation or to join one of his enemies. Won Sankwei did not procrastinate, he promptly sent a letter to the Manchus asking their aid against the rebels. It was decisive support, the rebel army was shattered, its leader fled, and the capital lay open to the victors.

But who had been victorious? The Ming general, who had conducted a brilliant campaign, found his army half Manchu, with more northmen pouring down upon the capital every day. In short, Won Sankwei found himself a Chinese general in a Manchu state. His decision can be set down as the culmination of Tai 'tsong's skillful propaganda campaign. The Empire had been delivered over to the Manchus by the Chinese themselves.

The new government now assumed all the pomp of the historic Chinese rulers, inaugurating a new dynasty under the regency of Prince Dorgan (brother of Tai 'tsong and fourteenth son of Nurhachu). The first great task was the completion of the conquest. The ravages of Li Tseching had left all north of the Yellow River in disruption, incapable of any resistance. Nanking was the rallying center for a brief loyalist stand, but dissention, irresolution, and lack of public support, paved the way for its fall and opened the whole lower Yangtse to the Manchu armies. There followed a push southward through Kiangsi, the fall of Canton and the final mopping up operations. By 1650 the mainland



resistance was shattered, the Ming leaders and sympathizers exterminated and a ruthless control imposed upon the nation.

But there remained a final phase of distinctive interest. So far the Manchu conquest had not been unparalleled in the cycles of Chinese history; dynasties had risen and crumbled and alien conquerors had swept over the land before. But now a wholly new context of events developed, setting a precedent for the patterns of our own time. While the Manchu armies could sweep irresistibly over the mainland, they were powerless on the sea. Naval warfare was completely foreign to these leaders from the northern steppelands.

But along the rugged, island-studded southeastern coastland from the Yangtse to Canton a local maritime tradition was firmly established. Fishing was a way of life, maritime commerce had been greatly fostered under the South Chinese Ming dynasty and the maraudings of local and Japanese pirates had made naval warfare a not unfamiliar activity. Thus, as the Manchus began mopping up the maritime provinces the coastal population took refuge on the offshore islands. The pressures were heavy enough and loyalties firm enough to induce thousands to make an unprecedented retreat to the great island of Formosa. Hitherto populated largely by an aboriginal group, with a Dutch outpost on the south-

ern coast, Formosa became the great asylum for Chinese who refused to submit to Manchu rule.

As the national defenses crumbled, a pirate leader, Kuo-hoing-yeh, known to the West as Koxinga, rallied the coastal forces and became the acknowledged leader of the Chinese resistance. Koxinga's forces completely controlled the offshore islands. He directed the harassments from the island base of Tsongming, just off modern Shanghai. However, following a disastrous attempt to recapture Nanking, Koxinga was forced to reorganize his position and he laid plans for an unprecedented island empire. On Formosa he was welcomed by thousands of Chinese refugees. Koxinga ousted the Dutch from their trading post of Fort Zelandia, assumed the title of "King of Formosa," and laid plans for the capture of Manila from the Spaniards. However, the following year this adventurous freebooter who had become the leader and symbol of loyal Chinese resistance died.

Koxinga was succeeded by his son, Cheng Ching, who carried on his father's policies as related to the Chinese coast. He captured Haicheng and laid siege to such prominent mainland ports as Changchow and Chuanchow. So exasperated were the Manchus that they ordered an evacuation of all the populace from a coastal strip 10 miles in width in order to block local support for the naval forces and to clear the ground for defensive action. This policy was never effectively carried through, but gradually over the years the Manchus captured all the mainland positions and began to marshal a fleet. Yet Cheng Ching, a worthy successor of his father, successfully defied the new dynasty for 20 years until his death in 1682.

However, as the grandson of Koxinga now assumed leadership, the situation had deteriorated. Amoy, Quemoy and Haicheng had been lost, there was little hope of regaining significant control over the mainland shores, and the attritions of over a generation of struggle had undermined the vigor of resistance. Thus in 1683 a Manchu fleet, under the command of an admiral who had been expelled from Formosa after a dispute with other leaders, sailed from Amoy, captured the Pescadores

and gained the capitulation of Formosa. Koxinga's grandson was given an empty title of Duke and exiled to Peking. Formosa was now placed under Fukien province and administered from Amoy. After 36 years of resistance, the great island became for the first time part of the Chinese Empire.

This brief outline of the events of 3 centuries ago is sufficient to show something of the challenging parallels with those of our own day. Comparisons are revealing both in the nature of the combatants and in the pattern of events. Like the Ming dynasty, the modern Nationalist party was essentially a South Chinese movement, spreading northward over the country and establishing its national capital not in the old northern imperial centers, but at Nanking. The Mings ultimately transferred their capital to Peking but Nanking remained unusually important throughout their era. Likewise both regimes reoriented China from its old landed and inward patterns, emphasizing instead the maritime frontiers, the great coastal cities and the commerce of the southern seas. Such similarities only become meaningful when contrasted with the opposite patterns which persist during most of the lengthy remainder of Chinese history.

On the other hand, a likeness of the Manchus and the Chinese Communists is not lacking: the ruthless development of a tightly disciplined shock nucleus; the forging of this unity in a secluded redoubt (Manchuria and Yenan) off the margin of the Chinese heartland; and the formulation of and quite candid announcement to the world of an audacious, long range goal—a warning, moreover, largely unheeded until too late in each case.

The causes of the Nationalist failure to hold China are indeed importantly different. Their historic predecessors succumbed in part to the culmination of a long history of misrule, while the Nationalists never really had a chance to face the insistent problems of the nation. Yet in each case the heavy burdens of a Japanese war were almost immediately followed by heavy pressures as a fresh challenger on the northern margins (although the Communist

threat had been incipient for a generation). Certainly the use of fifth column tactics, bribery and skillful propaganda to destroy national unity and public confidence is evident in each case.

The deliberate Manchu pose of efficient reformer rather than alien conqueror has a familiar ring. The exact sequence of events is, of course, varied, but apathy, disunity, confusion, and outright disaffection were abundant elements. The retreat from the crucial northern theater, the momentary stand at the Yangtse, the withdrawal to the southeast coast and the rallying of defiant resistance on the offshore islands, a pattern peculiar to the two eras, is a striking culmination of the historic parallel.

Realizing all of this as we stand at our moment of time, there arises an almost insistent temptation to project the analogy. But here we must pause and change our focus. For we would be guilty of an unforgivable historical blindness if we failed to recognize that there are also differences of overwhelming significance between the contexts of the times.

If the domestic political question in China were only a matter of a new government in the old tradition there would be little cause for critical concern. The Manchu preten-

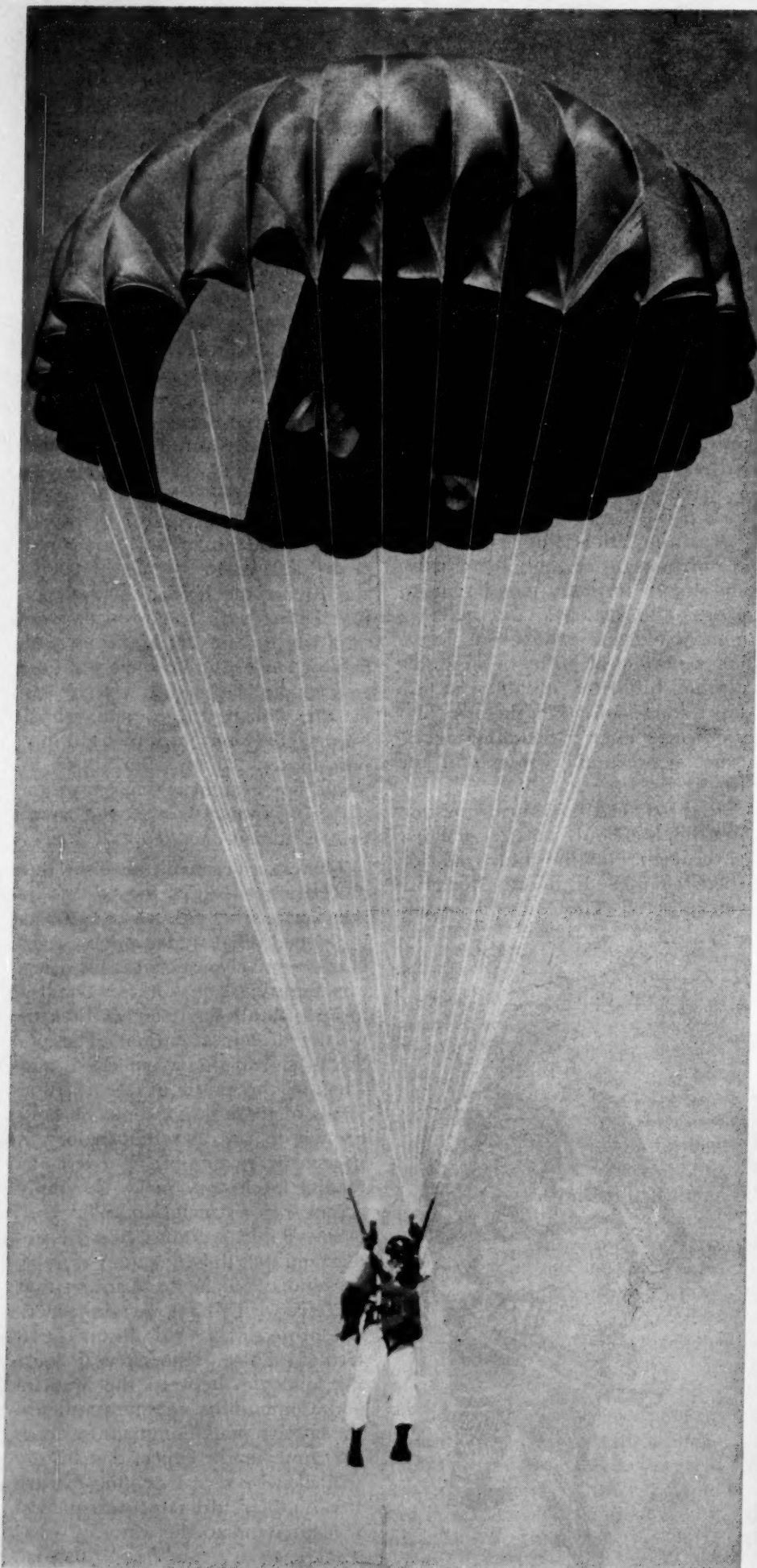
sions toward reform in keeping with the historic Chinese pattern were not entirely a dishonest pose. But the chaos of China over the last century represents not just a troubled transition from one dynasty to another, it expresses the agony of a comprehensive cultural revolution that is remaking Chinese society. No new government can emulate the traditional patterns, for these have crumbled under a century of cultural conflict of the greatest magnitude.

Both of the modern movements, Nationalist and Communist, therefore necessarily represent revolution, not reform. Moreover, the ultimate pattern of that revolution is of global significance and the struggle in China is but one strand in a web of mortal contention among the great ideologies of the world. One could press for a more complete analogy and equate the Russian support of Red China with the Mongol warriors who joined the Manchus, and find for the Western powers' position *vis-a-vis* the Nationalists a precedent in the Portuguese cannon which were offered (but never used) in support of the Mings. But to do so would be guilty of making history a plaything rather than a vital reservoir of human experience.

There are lessons in history. But if we cannot dismiss the past as irrelevant, neither can we accept it as prologue. What we must do is study it as objectively as possible for whatever meaning it may have. The historical parallel presented here is worthy of our attention. The political storms rage unabated and who, in the midst of the shifting winds of these days, would be bold enough to say that the analogy is necessarily at an end? But lest our reading of history make us simply accept such a conclusion as "logical" or inevitable, we must likewise understand that the differences of today are vital and make it imperative that we resist with all our energies a modern projection of this historic pattern of events. History reveals striking analogies between the Manchu and Communists conquests; should the latter remain dominant for long, we can assuredly expect that history will likewise reveal striking disparities in their ultimate consequences to China and to the world.

US MC



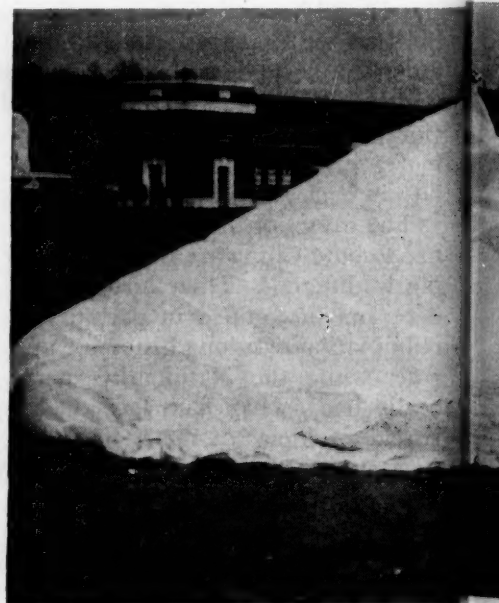


SKY

At 12,000 feet a man freely falling of
is lost. In half a minute, a 6-foot pa
body would have fallen 10,000 feet. ta

For these reasons, Marine Reserve 6,
Capt Jaques Istel (captain of the US hi
Parachuting Team and foremost pro his
ponent of "sky diving") feels this ar on
offers a new technique to combat re
connaissance. "Sky diving" would al ch
low recon teams to drop from great a g
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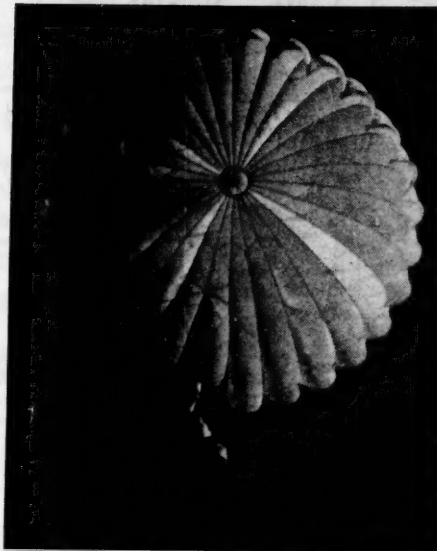
Capt Istel made 2 demonstration ha
jumps for the Marine Corps Devel low
opment Center. His goal was to cau
demonstrate how the human body
can be stabilized in free-fall by use pa



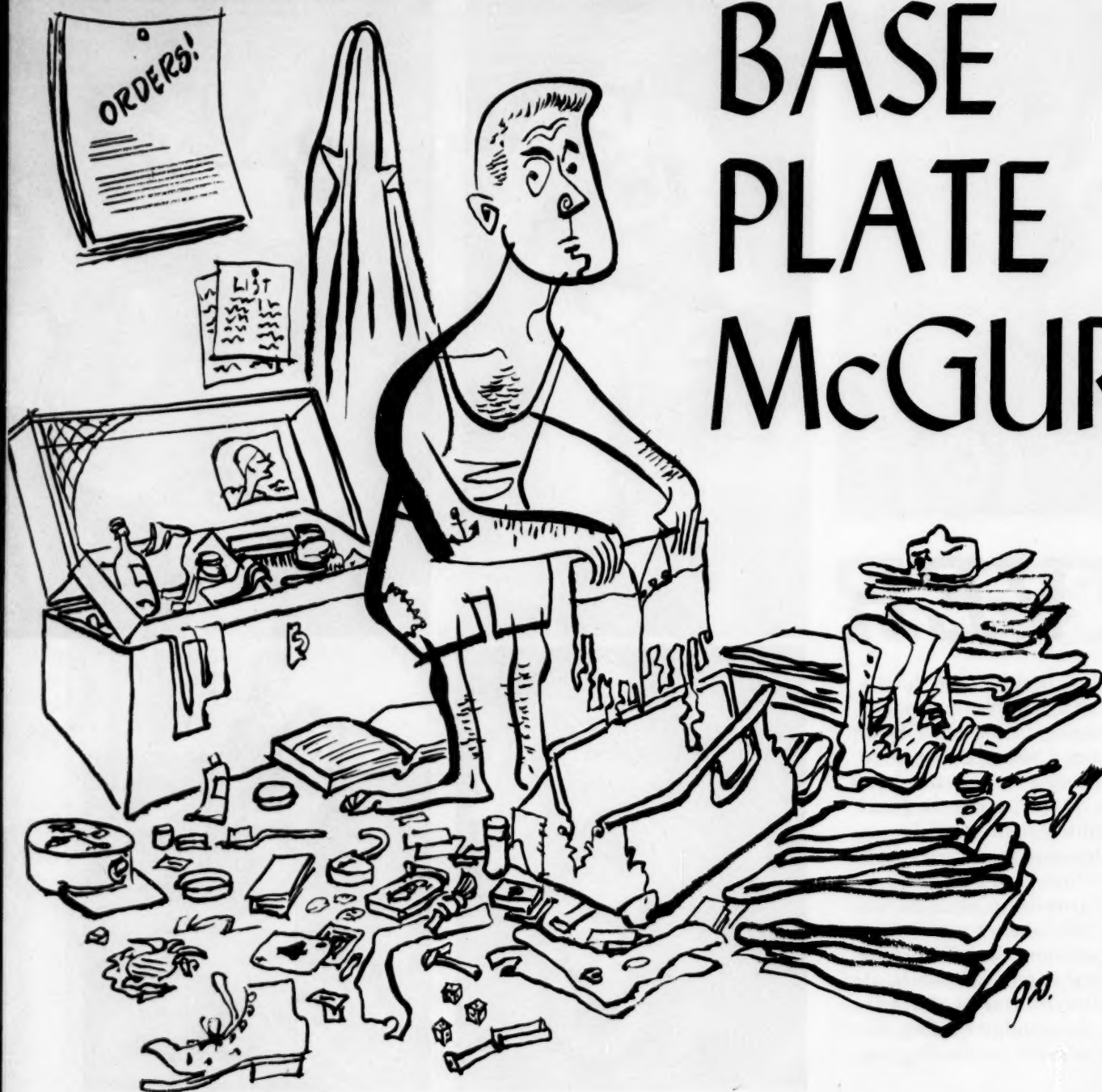
YDIVER

falling of a swan-dive position and how a 6-foot parachutist can land on a specified 100 feet target. Jumping from an OE at Reserve 6,500 and later 2,500 feet, he proved the US his point; landing only 4 yds from his target, a 12-foot square air-panel on the Quantico airstrip.

He also demonstrated a new parachute, given him by the Russians as a gesture of friendship when he was in Moscow last summer for international competition (left). The chute has eliminated one of the panels, allowing greater control of the drift caused by the wind, enabling the parachutist to select his landing site.



BASE PLATE McGURK



“HOSE NOSE,” ASKED I, “WASN’T Woolf Woolf Wilson the gent that was always yapping about ways and means to increase our force-in-readiness capabilities?”

“Now there is a horse!” Tex said, looking off into space and ignoring me.

“Actually, Base Plate is right. Woolf-Woolf felt very strongly, and I suppose still does, that most of us within a few months after our emancipation forget what we learned at Basic School and lose our individual combat readiness.”

At this point, Sad-Sam Patterson stretched his bony frame and reached for a beer. “Well, Cousin,” he said, “I’m not sure what you mean by in-

dividual combat readiness, but if it has anything to do with physical conditioning, there has sure been a lot of emphasis on it lately from top-sides. Why get so excited about it now? We’ll have plenty of time to get in shape once the whistle blows.”

“No! Sam,” Tex snapped, “you’re dead wrong. Under present world conditions and the modern concept of warfare we’ll never again have what you call ‘plenty of time.’ The need for a true force-in-readiness has increased tremendously and that means one that can move out in a matter of hours rather than in a matter of weeks. Although the Corps can see that the necessary men, supplies, and equipment are on hand,

and commanders can see that the necessary training and planning is kept up-to-date, the force is made up of individuals. Obviously, if the individuals are not ready, you’ll have delays, and you can’t possibly have a force-in-readiness.”

“For instance,” Mike chimed in, warming up to the discussion, “look at some of the roly-poly increments we have wearing the uniform. They not only don’t look like Marines, they couldn’t climb in a helicopter, much less climb a cargo net. You’d think that, as a matter of personal pride, they’d go on a diet and lose their blubber.”

“Agreed, and that points up why it should, and must be, primarily the

individual's own responsibility to keep himself in shape," Tex said. "Each individual should work out a physical conditioning program of his own that will fit in best with his schedule, as well as his personal likes and dislikes. Some birds like to play golf, others tennis, or swimming, or handball. All of us can walk, either to or from work, or on hikes on the weekends. Any program, whether it's an individual's or a unit's, should be progressive and continuing. A half an hour of calisthenics or close order drill, plus 1 or 2 long marches a week, will keep a unit in good shape, if the individuals supplement it with some exercising on their own. What I'm saying is that we must develop 2 things. First, we must develop the individual's responsibility, and second, we must develop the responsibility in our small unit leaders to keep their men in shape and that includes cracking down on obesity. The doctors will help on working out diets to get a man down to his normal weight."

"It seems to me," Mike said, "the physical conditioning part is only a start. There is a lot more to this 'individual combat readiness,' and if 'Laughing Boy' will get his cotton-picking fingers out of my blouse, I'll give him a cigar and enlighten you forthwith."

"What a sneaky trick," Sad Sam muttered, "hiding those stinking ropes so all the world would see a poverty stricken old soldier in his shame. Give me two, you cheap skate!"

"I can see how Sam is able to afford a new car every 2 years," Tex laughed. "I'll open another round while Mike has the floor."

"What I had in mind," Mike said, "is the need for us to keep our uniforms and personal gear in shape and on hand. Now this is easy to let slide insofar as officers and Staff NCOs are concerned. We keep tab on our men by regular inspection of clothing on the bunk. However,

here again, is a very important responsibility that is given to us as individuals. Since we have plenty of notice on our various landing exercises and training problems, we don't stop to think what we would do if ordered to embark in aircraft in, say, 8 hours, and take off. Sure as hell, I wouldn't be able to find my soap dish, small mirror and all that stuff. Besides having to work in a quick run to the PX, I'd find, when I got there, it was mobbed by other jokers in the same fix. Then, I'd remember, while looking for my skivvies, that I had converted several to shoe rags and had been meaning to buy some more. Or, even worse, my other set of greens were shot, but I had decided to wait until next fall to buy a new set."

"And don't forget, Cousin," Sam interjected, "all the time Old Granite Puss is sending for you and wanting to know what in the hell is taking your outfit so long, and why in the double blue blazes aren't you with them, getting them squared away."

"This is the most chilling, demoralizing conversation I've ever heard," I ventured to comment. "I can practically hear the brig door clanging shut. What's the solution—if there is one?"

"I can tell you Woof-Woof's solution," Tex said. "He kept a check-off list. Once every couple of weeks, he took his list and held inventory. If something was missing or required replacing, brother, he didn't stop until he had it on hand. Incidentally, he kept a copy of the list pasted inside the top of his locker trunk. He won 10 bucks off of me on our way to Korea, by being able to prove that he knew exactly every item that he had in his trunk. Wish I'd done the same! Man! what those months in the Ascom City warehouse did to my brand new golf shoes!"

"I remember some of the older officers talking about their expeditions to Iceland before we got into the Second War," laughed Mike.

"They were bachelors and didn't have time or take the trouble to stow their excess gear in Diego. As a result, they had everything, including their blues, whites, tropical worsteds, and even swords, with them. In Iceland, no less! Hear tell, those characters learned the hard way and didn't make the same mistake twice. I guess maybe it is a good idea to have it all planned out as to what you'll take and where you'll stow the gear you'll leave behind."

"Come to think of it," Sad Sam yawned, "there's another facet to this thing we've overlooked. The other night I was over at the Rogers' for dinner, and they were arguing whether she and the kids would go to her home or stay put if he shoved off. Didn't make much sense to me, since I knew damn well Joe isn't going any place. However, he just said something about not being able to let those things wait until the last minute, and we got to talking about something else. Guess our married brethren have some additional planning to do."

"I can sure see Joe's point. Not only would it be only common sense to have something as important as that talked out and agreed upon in a leisurely manner, but also there's the question of money for the trip," remarked Tex. "And, say, speaking of money, another item most people leave 'til the last minute is registering allotments. I've heard of some officers who keep a regular allotment going to their joint checking account so when they shove off that detail is all taken care of. Furthermore, although a bachelor can, of course, let his pay ride on the books, I've found it more convenient to register an allotment to my bank so I don't have to bother with money orders or government checks when I want to send for something or pay a bill stateside."

"All in all, I think it's pretty obvious that any man will be mighty thankful if he is not bothered with



all of the many time-consuming personal details once the bell sounds. We'll be busy with our official duties and, if we're worrying about our personal affairs, one or the other is bound to suffer—probably both."

As Tex finished speaking and got up to open another round, in walked Dave Winters, looking real shook.

"Move over, Sam," he growled, "your sad puss fits my mood. Susie's mad at me for being late for our date—turned me away for that matter. The Old Man's mad at me for not having the answers, and I'm mad at myself for being so flaming stupid!"

"Give, son," murmured Tex, "you have many sympathetic, if oversized, ears here present."

"Well, just as I was leaving the office, word came in that 4 of my men had been involved in a bad auto wreck. The Old Man sent for me and wanted to know all about them. You know, who was married, where their wives lived, did they have insurance, all that kind of dope. I recognized their names but that's about all. What made it so damn embarrassing was that all of them had been with me over 6 months, so I couldn't say they had just joined my outfit. Anyway, after giving me a look that would freeze a bowl of Kimchi, he went on questioning me about my unit. How many men were ineligible for overseas duty? What replacements, by rank and MOS, would I need to mount out? Hell! I didn't see what that had to do with the situation. He finally dismissed me with this warming expression of confidence. 'Lieutenant,' he says, 'you are willing to accept the prestige and satisfaction of command but ignore the accompanying responsibilities.' Brother! I dread to see my pink slip for this semester!"

"What the Old Man was driving at ties in with what we've been discussing," Tex said. "We've been talking about what an individual should do to keep himself combat-ready and therefore fulfill his responsibilities as a Marine, which is to say, as a member of a force-in-readiness."

"As company grade officers, we also have the responsibility of seeing to it that our men are ready to move out in every respect and that includes helping them keep their personal affairs in order."

"Well, I don't think it's right to

pry into someone else's business," Dave complained. "A man's entitled to some privacy."

"I agree," said Tex, "but it isn't prying if you insist that they keep their personal affairs in order. Those that don't will be the ones who want special liberty just when you're loading out. By holding regular conversations with each individual in your platoon, you can learn the main things about him without 'prying,' as you call it. You can advise him to get insurance or register an allotment if he should do it. You can see that he has a plan for storage of his car, if he owns one. You can arrange talks for him with the chaplain, to help him make plans for his dependents in case his unit moves out. Or, if it's apparent he'll need some dough, he can talk it out in advance with Navy Relief or the Red Cross. No, Dave, he won't resent your interest in his personal affairs. He'll be damn thankful for your help and understanding."

"Now, on the more official side of the picture," Mike spoke up, "I can see why the Old Man asked Dave about the overseas eligibility of his men. He doesn't want to trust the machine record or some clerks at higher headquarters. We should know exactly, not only how many, but who we would have to replace if the unit is ordered overseas. We should also have at least a general idea of how we might shift around the old members of our team, in order to most efficiently assimilate any new men we receive at the last minute. Actually, it's similar to keeping our equipment, not only in good shape, but up to date as well, insofar as shortages are concerned. We should all pay more attention to seeing that our requisitions are current and that we can advise the next higher headquarters exactly what we are short and what needs replacing."

"It seems to me," Tex said thoughtfully, "that here again old Woof-Woof's check-off list system might be the answer. When you consider all of the things your men would have to do if they had to move out in a matter of hours, you're tempted to push the panic button. For instance, they'll have to recover their cleaning, laundry, and shoes being repaired. They'll have to wash their dirty clothes, stand inspection,

and give the barracks a final policing. All this, mind you, and a lot more, even if their personal affairs are in perfect order and require very little additional time."

"Yeal" Mike said. "I can just see one of my lieutenants coming up at a time like that, wanting permission to take off and talk to the legal-beagle about drawing up a will or a power of attorney so his wife could sell his car. Would you believe it, there are actually grown men running around who have never taken the trouble to make a will?"

"Yes, Mike, I'd believe it," Tex laughed, "because I'm one of them. Always seem to put it off, but I won't any longer. However, I think we've come up with some pretty good problems that need solving as far as the units are concerned. I'll bet, if we sat down and worked out a realistic mounting out procedure for our platoons and companies, we could get the Old Man to let us run some drills and test it out. I, for one, would like to feel that my company, small as it is in relation to the entire force, is actually a force-in-readiness, made up of individuals ready, willing, and able to move out."

"Aw, come off it, Tex!" Dave said, as he stood up to leave. "After those two beers and this short sojourn with the 'Ale and Quail Club' my spirits have been restored. Susie will forgive me tomorrow as usual. The Old Man has more pressing matters demanding his attention, as they say, and you know as well as I do that I have a damn hot outfit. Why, only last week we shot a 92 percent requalification. Beat that if you can!"

"I can and will," Tex replied grimly. "You remind me of what someone once said—nobody knows who; anyway, he said, 'If your own performance of a job looks perfect to you, it isn't because you've done a perfect job, it's only because you have imperfect standards!'"

"You'd better stop just talking about what a hot outfit you have and take steps to insure that it really rates the title 'force-in-readiness.'"

US MC



DON'T SCRAP THE 75s!



... put 'em in the infantry battalion

By Capt W. J. Ankley, Inf, USA

TODAY THE MARINE CORPS IS replacing the 75mm recoilless rifle platoon in the regimental Antitank company with 3 platoons of the new "Ontos" and their 105mm recoilless rifles. This is a decided improvement in the antitank capability of the Marine regiment, *but* does this in any way alter or improve the basic problem at battalion level regarding the need for an *organic, highly mobile* antitank weapon with a greater range than that of the 3.5-inch rocket launcher? As we develop the New Concept and spread further and further apart to meet an atomic threat will this support from regiment fill the bill?

Let us narrow the problem down by first considering 2 basic premises. First, the 75mm recoilless is, today, the only *hand carried* AT weapon with a median capability against moving targets up to 1,000 yards away and no new weapons in this category will be in the hands of the troops for the next few years. No attempt will be made here to discuss the capabilities or limitations of the 75mm recoilless, nor to discuss the tactical employment of the gun itself. Second, for the purpose of establishing a common basis regarding the need for AT protection at the battalion level, the following excerpts from the Marine Corps LFM-27 on antimechanized defense are quoted. Paragraph 103h states, "Subordinate units are responsible

for their own zones of action. Their requirements for local protection are met by the use of *organic* weapons." Paragraph 402c states, "Employment of helicopter borne, airborne, or air transported troops as part of an amphibious operation requires that special consideration be given to their protection against hostile mechanized attack." Lastly, paragraph 102b states, "Immediately following the initiation of the amphibious attack, reliance must be placed upon portable antimechanized weapons. . . ." With these two basic premises in mind let us look at the case for making the 75s organic to the battalion today.

Effect of Tactics

Dependent upon the continuance of the present infantry tactics there exists today a very strong and definite need for a better AT capability within the infantry battalion. Even in the face of a nuclear conflict this holds true. The basic change in nuclear warfare is in *unit separation*, and this splitting battalions off by themselves, demands a greater organic AT capability than conventional warfare. There are several basic premises concerning this business of unit separation which greatly affect our need at the battalion for our own organic AT weapons. The first of these is the fact that the infantry battalion is the smallest unit not to use unit separation within it-

self. This sets up the infantry battalion as being committed in nuclear warfare to a standard policy of being separated from the other battalions within a zone or sector. The battalion must, within itself, contain those weapons needed to enable it to survive under this system. The capability of mutual support will be limited to long range weapons only, and the employment of close air support to keep a mechanized threat down will always be limited by weather and other variables such as enemy air. Even the proposed use of tactical atomic weapons will not completely eliminate or stop all mechanized threats. Atomic weapons may not be used in many cases, but their very existence will force the policy of unit separation upon any future battlefield. One more fact remains in this type of warfare which demands, above all others, the use of organic AT weapons within the infantry battalion. This is the possible loss of battalion-sized units under atomic attack. This loss would immediately make the remaining 2 battalions assault or front line battalions, with both at all times needing their own organic AT weapons. The possible employment by the regimental commander of his 3 platoons of the "Ontos" will not always fill this need, as he may decide initially to place 2 platoons with one battalion. The loss of this battalion would then, while resulting in the

loss of one-third of the maneuver elements within the regiment, also result in the loss of two-thirds of the AT support within the regiment. Under the concept of future wars each tactical grouping such as a battalion must have within its organization, or attached to it, the means to protect itself and to fulfill its mission. As the 75mm recoilless is basically an infantry weapon and one that the infantry battalion can carry with it at *all times* and under *all conditions*, this weapon will then provide the answer to the battalion's need for an organic AT weapon with at least a minimum capability.

The second basic fact is the distance involved in unit separation. The present thinking envisages a minimum distance within the front-line battalions of at least 1½ miles. This distance in itself eliminates mutual support between battalions except for artillery weapons or by movement of the units involved. Remember, this figure of 1½ miles is the *minimum* distance for front line units. This requires the battalions to have weapons available that will reach out in front of their own positions, in addition to artillery, to hit targets on all sides. The distance between units, as it will be complete island-type separation, forces the use of highly mobile weapons to cover these greatly increased areas of responsibility. The 75mm recoilless, being man-packed and not limited by vehicular mobility, can be moved rapidly within a perimeter for such missions. In addition it does not require any minimum distance, as does artillery, but can be employed right on the front lines or the outposts to give maximum use

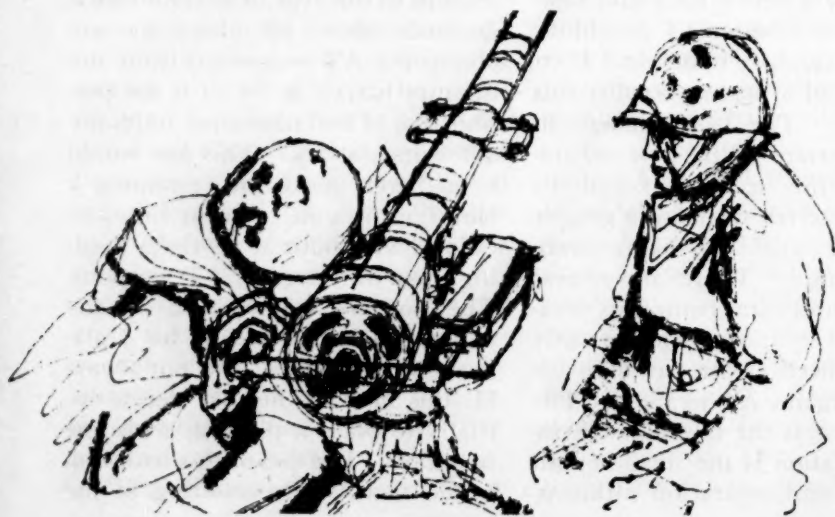
of its range. The battalion commander will be able to develop his scheme of maneuver and plan for AT protection on a long term basis because he will be assured of always having his own 75s. Another key factor regarding the distance between units is the increased problem of shuffling supporting weapons from one unit to another. Formerly this did not present too much of a problem as the units would pass through one another or be adjacent to each other. However, in the future concept, units will by-pass or go over other units, and the opportunity to pick up supporting weapons enroute has almost disappeared. Units must have at all times those weapons that are needed to protect the unit itself, and certainly one of these types is an AT weapon with a longer range and greater accuracy than the 3.5 inch rocket launcher. The 75mm recoilless, although far from the perfect AT weapon, will provide an answer to this problem in the near future. It fits easily within the present battalion organization both from a training and logistical standpoint without requiring any additional changes to adjust for its use. It gives the battalion commander at all times a weapon with which he can provide a minimum of all-round defense under the tactics of a nuclear battlefield.

Requirements of Assault Units

The basic consideration in employment of short or medium range weapons is to provide their fires in support of assault units. Our entire military concept at the present time is based upon the triangular concept for ground combat which allows for

a reserve. This type of commitment permits the use of only 2 basic supporting elements at one time because there normally are only 2 assault units out of 3. This fact does not always hold true even in today's conventional warfare, let alone in the warfare of the future with independently operating units necessitating 3 assault-type units. It is easily conceivable that 3 battalions will operate with parts of their units in the assault simultaneously, thus necessitating 3 supporting AT units. Granted that the new regimental organization with 3 platoons of "Ontos" will provide 3 supporting units. This fact will not always hold true because of the possible employment by the regiment of units against varying degrees of mechanized threats, thus mitigating against an even split of the regimental AT weapons.

Inasmuch as the primary mission of Marine units is offensive in nature, we accept the fact that the defense and defensive planning are secondary considerations. However, this holds true of all services and countries, i.e., the offense being the principal means of winning wars. There does exist a basic difference in employment that is not based so much upon offensive over defensive tactics as upon a better terminology—*assault units*. The Marine Corps by its mission becomes primarily a force designed for *initial assaults* whether they be over or across a beach. The outstanding tactical characteristics of assault-type actions, no matter by what method, is that of initial unit de-centralization both in personnel and in control. Assault units hitting a beach, arriving in a landing zone, or dropping upon a drop zone, are widely scattered as far as their own unit integrity is concerned. In addition they are little able to render support to any other adjacent or near-by unit at this time. It is then that the need for locally available, highly mobile, organic weapons for AT protection is most pressing. In the past it has been the practice to attach 75mm recoilless rifles down to the 2 assault battalions. This worked as long as those 2 battalions remained in the assault. There will definitely be times when the "Ontos" will not have the mobility required to be with the assault troops during this initial and critical phase. The fallacy of at-



taching units to 2 assault battalions only, lies in the fact that even in the past the third, or reserve, battalion was often committed, thus necessitating a shift of AT weapons in mid-battle. Combat efficiency suffers in this action and also the situation forces gradual decimation of the men from the un-relieved supporting units. If the 75mm recoilless were organic to the battalion, each battalion would have with it at all times its own organic AT protection with the mobility to stay with that battalion at all times in any assault.

In the future, the use of helicopter-borne troops will present the commander with the situation of committing all 3 battalions in the assault in different areas. This can be supported by the 3 platoons of "Ontos," but these are regimental weapons and not always with the battalion. In addition, if only 2 battalions are committed in the assault by helicopter, the regimental commander may decide to employ all 3 supporting "Ontos" platoon with these assault units. Then, if the reserve is committed suddenly in another area by helicopter, it may result in that battalion being committed without any opportunity to pick up supporting AT weapons. This continual shuffling around of the AT weapons within regiments may at many times leave a tremendous gap in the AT defense of the infantry battalions. The major factor in this consideration is the need for AT weapons on the spot, within the unit at all times when needed.

There is one remaining method of assault employment which will undoubtedly be more common in the future, mobile type conflict. This is the use of 3 separate battalion landing zones for different objectives. Each battalion in this instance would probably commit part of its

unit in the assault on its objective, retaining its own reserve. This will require within the regiment the decision to support all 3 assaulting units at the same time. Unless these battalions have their own AT weapons the regiment will retain no freedom of action with its own AT weapons, being forced to support all 3 units. The scattering of units over greater distances because of air mobility, will place an exorbitant strain in any attempt to shift supporting weapons from one unit to another. Each assault unit must be able, under this new method of employment, to provide its own minimum AT protection and this must be more than the present 3.5-inch rocket launcher. This is an excellent weapon for close-in protection, but the assault units need a weapon that will reach out with a degree of accuracy to protect against tanks before they actually close with the infantry units. The 1,000 yard range of the 75mm recoilless provides this support at this time and, in addition, the dual capacity of this weapon which enables it to be used against ground targets other than tanks, assists the assault unit commander against strong points he desires to eliminate. Above all, this provides him with a weapon which will allow him to follow the basic tenant of supporting weapons; give the means to accomplish the task to the man who must do it.

Organizational and Logistical Considerations

The past organization of the 75mm recoilless rifle platoon as a part of the regimental antitank company provides an organization that can be made organic to the battalions. By so doing it will provide the weapons needed in the battalion, but will increase the present strength



of the regiment by 2 officers and 82 men. There are other possibilities of reorganization, but the adoption of the organization used by the US Army will provide the same number of guns in each battalion with an increase in regimental strength of only 2 officers and 31 men. This platoon carries 4 guns and consisted of one officer and 24 men.

It is in an examination of logistics that this addition will provide a burden on the regiment. By assigning one platoon of 4 guns to each battalion we actually triple the amount of 75mm recoilless ammunition used in the past. This means an increase in tonnage of approximately 11 tons when figured in terms of units of fire. This is indeed a formidable increase. However, this can be reduced to an increase of only 2½ tons by carrying only 2 guns per platoon in the initial assault as was common practice for US Army airborne units.

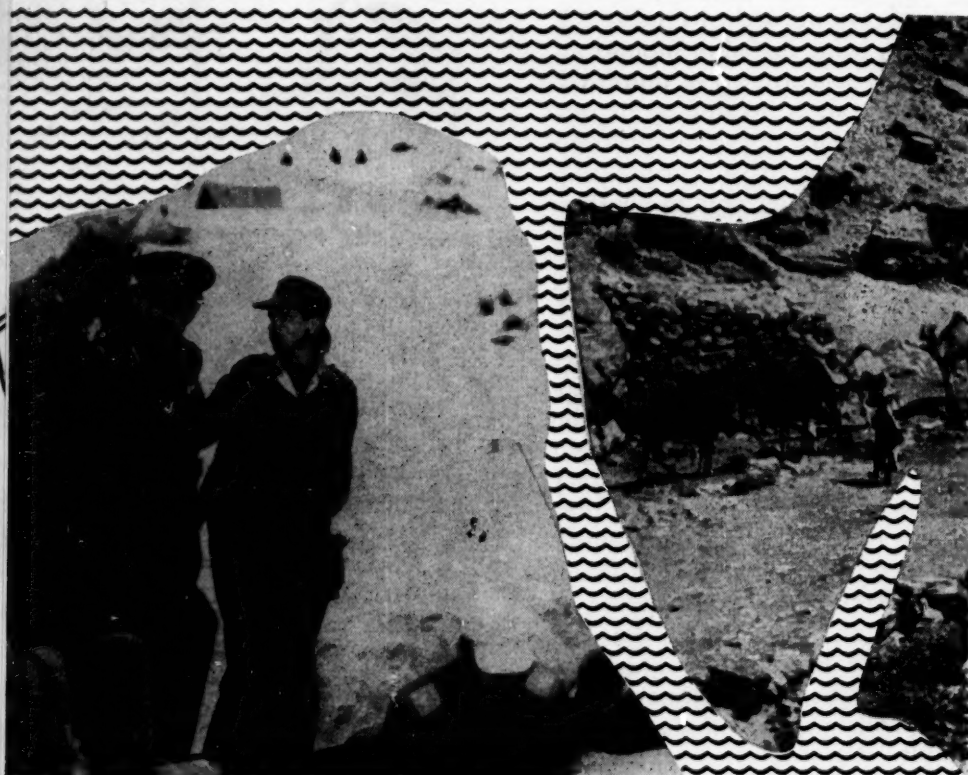
In summary, the effect of nuclear warfare upon future tactics will require strong independent-type operations of battalions, and an increase of AT protection within those battalions is mandatory. The employment of the 3 "Ontos" platoons will greatly assist the regiment in its overall supporting capability in this matter, but it will leave a great gap at the battalion level for AT protection organic to that battalion and capable of being carried with it at all times. Don't throw the 75s away. Put them down in the infantry battalions until we gain new highly mobile weapons to take their place that will belong to the battalion itself.

US MC



Capt W. J. Ankley, Inf, US Army, attended the '55-'56 class at the Junior School, MCS. While a student there he considered the present Marine Corps organization and equipment for antitank defense. Following his commissioning, Capt Ankley finished the Infantry Basic Course and the Airborne Course at Ft Benning in 1949. For the next two years he was a platoon leader with the 504th Abn Inf Regt, then he served as a Regt Munitions Officer and ExO of the Recon Co, 508th Abn Inf. Before coming to Quantico he served as S3, 3d Bn, 296th Inf and as CO of L, G and M Cos, 65th Inf.

A LOOK AT THE



Wide World

By Russell S. Hibbs

THE AREA COMPRISING LEBANON, Syria, Iraq, Jordan, Israel, Saudi Arabia and Iran is often referred to as the Middle East. This is not a concrete definition and "Middle East" and "Near East" are often nebulous terms. The defined area is geographically one of contrasts. The fertility of the Nile Valley and the Fertile Crescent is contrasted by the aridness of the greater part of the land. The surface of the Dead Sea 1,286 feet below sea level is in sharp contrast with the mountains of over 5,000 feet altitude yet only 30 miles distant. The area is obviously of interest to the geologist. Perhaps less obviously, but to no lesser degree, it is a treasure land for the archeologist, anthropologist and student of religion.

Nor should its historical richness be forgotten. The littoral plain bordering the Mediterranean from the Gulf of Iskenderon on the north to the Sinai Desert in Egypt has been the route over which countless

armies of history have marched. Hittites, Alexander the Great, Crusaders and Ottoman Turks poured through the mountains on the north to pass this way. Alexandretta (Iskenderon), Turkey reserves the name if not the exact location from the Battle of Issus where in 333 BC Alexander the Great defeated Darius and the numerically superior Persian army. Before advancing further to the east, Alexander swung south along the Mediterranean segment of the Fertile Crescent. After a 7-month siege of Tyre, he overcame this fortress and proceeded to secure Egypt before retracing his steps north and then east. After winning the Battle of Gaugamila in 331 BC, Alexander controlled the Tigris and Euphrates Valleys, making his control of the Middle East complete.

It is important to understand the significance of these rivers in the time of Alexander and their equal importance today. The Tigris and Euphrates, along with the Nile, are

the life blood of the area. Even the littoral plain of Syria, Lebanon and Israel is dependent upon the rich deposits of the Nile which form this narrow but fertile strip.

The muddy waters of the Nile color many square miles of the blue Mediterranean when the river is at flood stage. Between the banks of the Tigris and Euphrates once "hung" the gardens of Babylon. Little remains of this once famous city. German archaeologists excavated this site and shipped most of the important tablets and statues to the Berlin Museum prior to WW I. These treasures are now probably in Moscow.

In the 19th Century [Mameluke] forces of Egypt marched as far north as Aleppo (Syria) and threatened to overthrow the Ottoman Empire; however, intervention of the "Great Powers" prevented this.

Napoleon also used the route. After conquering Egypt, he employed some 10,000 camels to transport his light guns and supplies across the Sinai Desert. His heavier guns were sent to Acre by sea only to be captured by the British and later were used to defeat him. Napoleon's military campaign in Egypt was a fiasco, but the lasting French influence which the following short period of French domination imparted is difficult to appreciate without visiting Cairo or Alexandria. Here one finds French names, French books, a French speaking middle and upper class, *et cuisine française*.

Concrete evidence of the historical importance of this route is visible at the Dog River Site. Lying about 15 kilometers north of Beirut, Lebanon, the pass of Nahr el-Kalb has seen conquerors from Ramses II in the 13th Century BC to Gen. Gouraud in 1920. Each has left a record of his conquest in the form of an inscription, making the rocky hillside an open-air museum. Unfortunately some smoothed the inscriptions of others to chisel proof of their own achievement. No less than 19 inscrip-

E MIDDLE EAST

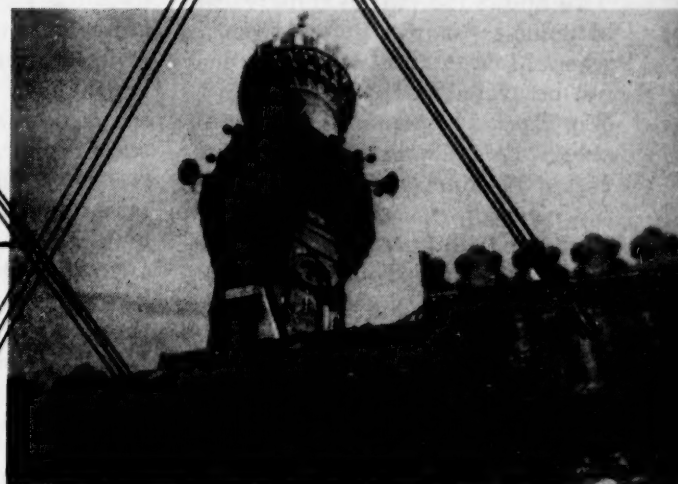
a battlefield for armies and ideas, it links Europe, Africa and Asia

tions remain within an area of a few hundred yards.

What generality of current value may be deduced from these historical facts?

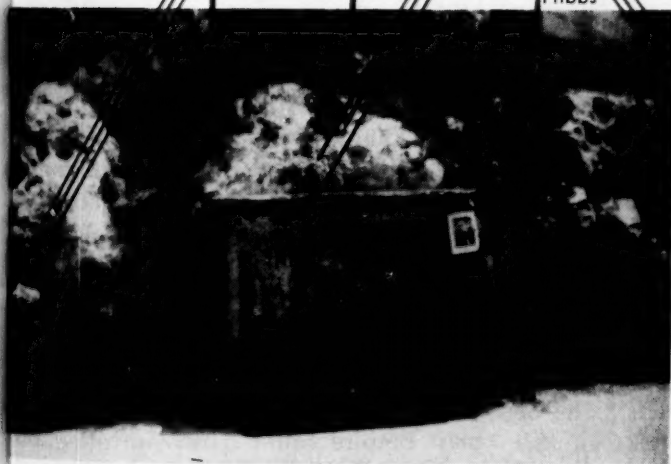
First, the strategic location of the area. The Middle East has been a battlefield of armies and ideas. It is a land bridge linking Europe, Africa and Asia. Not only was it of importance in ancient history but

*Al Azhar Mosque,
Cairo*



Hibbs

Hibbs



***Dog River Site, crossroad of history
(here inscription by armies of Napoleon III)***

has remained so in our generation. Significant battles took place here between the Allies and the Ottoman Turks during WW I. During WW II Rommel was stopped 60 miles short of Alexandria. Iran served as an important supply route to the Soviet Union. In 1943 the *London Times* stated: "The whole course of

the war has brought home the importance of the Near East . . ."

The present Communist vis a vis West conflict has amplified the area's importance. Control of this area by the Soviet Union would destroy the usefulness of the Suez Canal and provide Persian Gulf bases for Soviet submarines to harass shipping off the

entire coast of southern Asia and eastern Africa. In Red hands it would increase the Soviet air capability over Greece, Turkey and North Africa.

The area's second claim to importance is based on its petroleum resources. The Middle East contains over one half of the world's proven

oil reserves and accounts for 18 percent of the world's total output of crude petroleum (outside the USSR for which exact figures are not obtainable). The western European nations with a population of nearly 300 million people are dependent on Middle East oil. Approximately 97 percent of the petroleum consumed by Western Europe comes from the Middle East. If this supply of oil were shut off, the effect on Western Europe's economy and defense capabilities would be felt immediately. Even the United States imports substantial quantities of Middle East oil. This allows the partial conservation of domestic sources for emergencies when Middle East petroleum may not be available.

(Ed: The author submitted his manuscript to the GAZETTE many months before the Suez crisis arose. Thus, his view of the effect of this on Europe's oil supply is based on foresight rather than on accomplished facts.)

In spite of recent atomic energy developments, petroleum is, and will continue to be for some years, one of the most essential commodities to an industrial nation.

The importance of petroleum resources to the countries of the Middle East themselves is difficult to exaggerate. This is the one resource which provides the Middle East a substantial financial credit. Saudi Arabia's wealth is a familiar story. Less obvious is the importance of oil to Iraq, Jordan, Syria, Lebanon and Israel. The large sterling credits provided by the Kirkuk oil fields of Iraq are being used to finance the country's agricultural, communication, transportation and school development. These are items which will be of value after the supply of petroleum is possibly depleted. A Development Board has been formed for this purpose. This Board takes 70 percent of oil revenues and spends them on development schemes. It is believed that irrigation projects being developed will increase arable

land 5 fold. Jordan, Syria and Lebanon, although not having large oil reserves, receive revenue from the pipe lines which cross their territories. The oil question in Iran was the principal reason for the coup d'etat of Mossadegh and his subsequent fate.

The third basis of the Middle East's importance may be termed, "its strategic diplomatic position." This term is in itself meaningless. Any strategic diplomatic position is a result of other factors: military strength, strategic location, industrial capacity, natural resources, or technical knowledge. None of these aforementioned factors, except strategic location and natural resources which have been discussed, are responsible for the Middle East's strategic diplomatic position. Two abstract, yet important, ideas are the mainstays of this position: 1) The area is the historic center of the Islamic-Moslem world. 2) The area has the role of a representative of the underdeveloped countries of North Africa and Asia.

Islam has been a dominant factor in the Middle East since shortly after the birth of Mohammed in 570 or 571 AD. He was born in Mecca, Saudi Arabia, of a respectable but not prominent family. His real name is not certain, Mohammed meaning exalted or comforter. Little is known of his youth; he did not begin his religious mission until the age of 40. He became the Arabs' prophet and gave them a religion in their own tongue. (Jesus spoke a dialect of Syrian).

Mohammed's main concept was the oneness of God. Since Mecca was the trade center of the Arabian Peninsula which embraced paganism, there was much opposition to Mohammed. This opposition forced him to flee to Medina. His flight, or *Hegira*, took place in 622. In this manner Medina became the second most holy Moslem city.

In Medina, Mohammed's problems were ones of state as well as of

religion. His preachings became more practical in nature and lost some of their previous poetic form. Ten years later, his following had spread throughout the entire Arabian Peninsula. His last conquest in 630 was Mecca, the city that had driven him out.

The Koran, meaning recital, is the Moslem holy book. It differs from the Bible in that it is considered by Moslems to be the word of God dictated by God to the Angel Gabriel and by him to Mohammed. Since it is the word of God, it cannot, and has not been challenged by Moslems on a scientific basis such as the Bible is subjected to.

Mohammed died in 632. The reckoning of Islamic time uses this date as its origin. To truly understand the Middle East and the Arab, a knowledge of Islam is necessary. *Mohammedism* by H. A. R. Gibb, Oxford University Press, London, 1953, is recommended for serious reading on the subject.

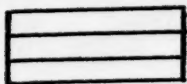
Today, the binding force of Mohammedanism embraces one of every 7 persons on the earth's surface. All of the Middle East, with the exception of Lebanon and Israel is predominantly Moslem. Lebanon is approximately half Moslem, half Christian. Israel's population is over 90 percent Jewish. In addition to the Middle East countries, Turkey, Pakistan, Afghanistan, North Africa, parts of Malaya and the Philippine Islands as well as Indonesia are Moslem. The Islamic faith commands about 400 million people. Under the motivation of Islam, the Arabs overcame the Byzantine and Persian Empires and extended their control as far as Spain in a brief 85 years (632-717). This spiritual force even gave birth to a counter force, the Crusades.

It is questionable that the Ottoman Empire could have controlled the Middle East from 1516 until 1918 were it not for the fact that the Sultan of Turkey was also the head of the Moslem world.


Mohammedanism has been a unifying force in the past and remains so at present. Although all Moslems are not Arabs nor all Arabs Moslems, the heartland of Islam is the Middle East. It is in that direction that the Moslem world looks for leadership.

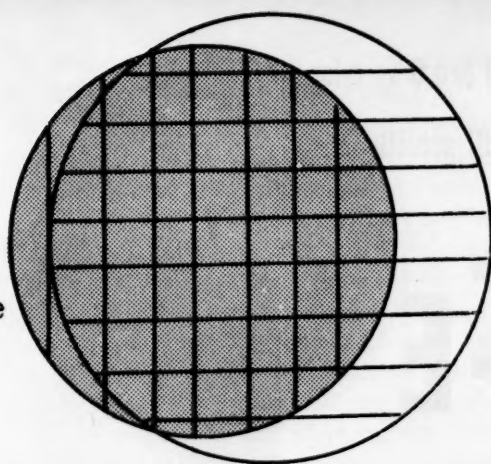
One of the acts of worship or pillars of Islam is the pilgrimage to

Prior to becoming a civilian research analyst with the Air Force, Mr. Hibbs spent 9 years as a Regular Marine officer. At the time he left the Service, in 1954, he was with G2, FMFLant. It was during his tour there that he attended a Near East Seminar at Beirut, Lebanon and gathered the material for this article. His primary interest being in the intelligence field, he attended the Russian Language School, the Officers' Intelligence Course at Ft Riley and served in Europe before going to Korea where he was also with G2 at Division level and KMCs.


Moslem sphere


Arab-Moslem sphere


Arab sphere



Mecca. Every Moslem must make this trip once during his lifetime if possible. This factor focuses attention on Mecca, Saudi Arabia. Although Saudi Arabia contains the two most holy Moslem cities, Mecca and Medina, the "Rome" of Islam is Cairo. Al Azar Mosque is less impressive to the eye than other mosques in Cairo, but none in the world is more important. Over 20,000 students from every Moslem country study the Koran and Mohammedan principles under the supervision of 2,000 professors. This mosque-university is the molder of Islamic law and faith.

With all of the Moslem world of 400,000,000 looking toward the Middle East, the importance of this area and its strategic diplomatic position is obvious.

Cairo (Al Qahira the Victor) is many other things than the location of Al Azhar. It is Egypt's capital. Numbering over 2 million inhabitants it is the largest city of the Arab world as well as of the African Continent. It may rightfully be called "le Paris Oriental." Cairo pulses with French restaurants, night clubs and horse races. To the tourist, all of Egypt may appear to have the glitter of Cairo and Alexandria or the glory of Luxor. Unfortunately this is not the case.

Egypt's total cultivatable area is inadequate for her teeming population of over 20 million persons. Considering the several crops per year which some of the land is able to produce, only .44 acres of land per person are available for the production of food. The fellahin, peasant, of Egypt lives in a poverty second to none, including India. To a lesser degree these same conditions of poverty are prevalent throughout the Arab Middle East.

There is a constant battle for existence, the struggle of the underprivileged. As the center of gravity of the underprivileged class of North Africa, the Middle East and a portion of Asia, this area gains a strategic diplomatic position. India has long "enjoyed" such leadership and prestige. With the struggle between Pakistan and India being no closer to settlement than before, with the United States' greater attention to Pakistan, and remembering that Pakistan is Moslem; it may be said that the Middle East's influence in Asian matters will increase rather than decrease.

The countries of the Middle East are trying to help themselves. Iraq has formed her Development Board. Syria, Jordan and others have made some progress, but it is a long struggle in an area whose state of development has not yet reached that of the Industrial Revolution.

The battle can't be won without aid from without. The United States is aiding these backward countries financially and through the Point Four Program. The latter provides teams of experts to give needed technical guidance. Unfortunately, financial aid and technical assistance alone are not the complete solution. Material progress is blocked by the Arab psychological approach xenophobia. This distrust of everything foreign has transferred the blame for many of the area's own shortcomings to the foreigner. Americans may be liked as individuals, but collectively they are the "haves" versus the underprivileged.

This xenophobia is not completely unfounded. The Great Powers of Europe played an international game of chess, often with the Middle East as a pawn. During WW I the British promised sovereignty in exchange

for aid against the Ottoman Empire. T. E. Lawrence's book, *The Seven Pillars of Wisdom*, gives a most interesting account of this period. At the close of WW I, it was decided to place the heartland of the Middle East under a system of mandates. France and England were designated the mandate powers. Lawrence was so shocked he changed his name to Shaw in an effort to escape his shame.

The pattern continued: Egypt was a British protectorate until 1922. Iraq achieved her independence in 1927. Lebanon and Syria were freed in 1944. Jordan became independent in 1946.

Prior to the end of WW II, the United States was regarded by the peoples of the Middle East with great respect. Their impression of this great power beyond the seas was based upon contact with American missionaries or archaeologists. The role of a world power is not always an easy one to play to the satisfaction of all. When the United States assumed this role, her prestige in the Middle East went down. The one factor that hurt the United States' position the most was her part in the formation of Israel. This is a complex, emotional question. In spite of which side is right or wrong, the fact remains that until Arab attention is diverted from Israel the formation of any organization such as MEDO, Middle East Defense Organization, will be extremely difficult.

The Middle East has always been an important area because of its position as a land bridge linking Africa, Europe and Asia. It is no less important today.

The Middle East is important because of its large petroleum resources. Western Europe is largely dependent upon this source of oil. Atomic energy will not obviate this need for petroleum for many years.

The Middle East has a strategic diplomatic position as a result of its leadership in the Moslem world and as a leader of the underprivileged classes of North Africa, the Middle East and Asia.

The Middle East is suffering from xenophobia. We must be certain that the area's struggle for a higher standard of existence, in which we wish to aid, is not transformed by xenophobia and the Communist Party of the Soviet Union into hatred for the West.

USMC

Everyone talks about the New Concept and Dispersion—

but it's high time we think out how we will actually

DISPLACE the Combat Base

By Capt H. D. Fredericks



DISPLACING A BATTALION COMMAND post has always been a difficult task; so much so that it is inevitably the subject of a separate SOP.

No sooner have we mastered the principles of displacing a CP when along comes a problem in displacement that makes the moving of a command post seem like child's play. Yet it amounts to nothing more than shifting the location of a BLT from one combat base to another in a nuclear war.

Let us pose a situation so that we might fully understand the scope of the problem.

A BLT as part of a larger force has made an assault landing upon enemy-held territory. This landing may have been made either by helicopters or landing craft. Regardless of which method of locomotion was used, the BLT now finds itself assigned an operating area well separated from the other BLTs in the division. Its mission—destroy the enemy in the operating area. This mission is accomplished by establishing what is termed a combat base. The BLT is composed of many units besides the infantry. A battery of artillery, a platoon or company of 4.2 mortars, tanks, 75mm recoilless rifles, or any combination of these and other weapons might be included. From this combat base, extensive patrolling will be conducted to find the enemy and fix him so that conventional and/or atomic weapons

may be brought to bear against him.

Now let us add to this situation some circumstances which will necessitate the moving of this combat base to a different location. Any number of reasons could require this. Higher echelon's ABC section may have determined that the BLTs are operating at distances too close together and greater dispersion is needed. Perhaps the operating area is considered cleared and the BLT must now move to another operating area to accomplish the same mission there. These or many other reasons may necessitate a move.

The problem arises right there. How do you displace to another area and still maintain adequate security for your battalion CP as well as for all attached units, such as artillery or four-deuces? There are a number of methods of movement, all of which should be considered.

First, examine those means which are available and which might aid in the move. There are helicopters; there are vehicles, both wheeled and tracked; and finally, there are the most reliable of all, feet.

Second, employing the above means, we can adopt either of 2 basic methods of movement. We could organize our BLT into a task force and move *in toto* to our new combat base. Helicopters pretty much preclude this type of movement, for it is difficult to envision (even if we had the landing space) our being able to

muster enough helicopters to move our entire BLT, including attachments and supplies, in one gigantic lift. Helicopters can certainly be used in the displacement, but it is easier to imagine their being used in a movement where the BLT moves by echelons. However, vehicles and foot travel do lend themselves to a task-force-type movement. But a task-force-type movement requires certain characteristics which we should examine a little more closely.

Let us suppose we "saddle up" our entire BLT and we move out towards our new combat base. The most expeditious type of movement is column, but just imagine the length of this column once we start down the road. It consists of an entire battalion of infantry, a battery of artillery, perhaps a platoon of 4.2 mortars, to say nothing of tanks, LVTs or Motor Transport which might be attached and, of course, the supplies. Security on the march must be provided this column. A formidable task! Although difficult, it is not impossible, however, for the artillery and mortars are certainly capable of assisting in their own flank security.

But security is not the main problem of a task-force-type movement. As we proceed on our route we should realize that at any moment we may come in contact with elements of the enemy. No longer are our battle lines contiguous and no

longer can we insure against large groups of infiltrators. Therefore, we must be prepared to do combat at any moment. But how prepared are our supporting arms? They are on the road, and it takes time to set up artillery pieces and 4.2 mortars and have them ready to fire effective support.

Therefore, we have put ourselves in a position where we are undertaking a good sized movement with no supporting arms which we can readily call upon except air, naval gunfire, tanks and organic mortars. Naval gunfire is not always available. The planes are wonderful, but even the pilots will admit that they can't do everything, and what happens if the weather is bad?

Let's face it — the Landing Force is not built to run strong task forces across country and still possess the supporting arms which we would like to have.

Moreover, we have been considering a situation where tanks and a good supply of wheeled vehicles or LVTs were available. Let us look a bit farther into the future. Our landing will be made almost entirely by helicopter. There are no tanks. Jeeps and small trucks are in short supply. Even the artillery has the helicopter as its prime mover. In a situation such as this a task-force-type displacement would be virtually impossible. We could walk? What about the artillery — who is going to pull it? Move the artillery by helicopter and let every one else walk, but then we are moving by echelons and, therefore, we plan to move by echelon. And the purpose of this article is to determine how these echelons will

be organized so that an effective displacement can be conducted.

However, before we decide on organization, we must determine whom we are going to have to move. First, there will be the infantry — the rifle companies and weapons company. Then, there will be the CP for this organization, which will, incidentally, be the command post for the entire combat base. Finally, there will be the attached supporting arms — the artillery battery and the 4.2 mortar unit, whatever size it may happen to be. And so there are the units. In this movement we must



keep constantly in mind the fact that the country must provide security for the CP and the supporting arms.

The battalion CP is most efficiently placed in 3 echelons — 1) a reconnaissance group or what we shall term an advance party, 2) a forward echelon and 3) a rear echelon.

The first echelon of the battalion command post consists of an advance party. Under our present concept we may have to fight and seize the terrain on which the combat base will be located. And so we recommend that a rifle company form the basis for the advance party. Attached to the company and moving with the company CP would be certain personnel necessary to accomplish the functions of the advance party. The headquarters commandant is necessary, for he will lay out the battalion CP. The communications officer's services can probably best be used at the old combat base. In his place we recommend the communications chief who can make the necessary preparations at the new combat base. Wiremen will be necessary but they

should be few in number. Guards and guides can be eliminated since personnel from the rifle company can perform these functions. In addition to these, we recommend that the following be included in the advance party. First and foremost, we should include the artillery reconnaissance party, for the positions for the artillery battery should be chosen prior to its displacing forward. Second, a representative from the four-deuces should be included. Operations must be co-ordinated; and who is better able to do this than a representative from the S3 section? Consequently, we recommend the Assistant S3 going along to co-ordinate these activities. And so, let us summarize the composition of our advance party:

- One Infantry Company
- Assistant S3
- Headquarters Commandant
- Communications Chief
- Wiremen
- Artillery Reconnaissance Party
- 4.2 mortar Reconnaissance Party

It should be understood that certain additions and deletions may be necessary in this list depending upon the task organization of the BLT.

Now let us examine the forward echelon of the combat base. This unit will move when it has been informed by the advance party that the site for a new combat base has been found, secured and reconnoitered. In considering the composition of this forward echelon we must remember that because one of our companies successfully traversed the terrain between the old and new combat base we cannot insure that this route is secure. Infiltration by the enemy will be the order of the day in a near war. The basis of the organization of our forward echelon will also be a rifle company whose mission will be security on the march. This company's job will be a little more difficult than that of the company we sent with the advance party, however, for now vehicles must traverse the route, and whenever vehicles are combined with foot troops, movement becomes more tedious.

A rifle company is the basic unit of the forward echelon. Now that 2 of the 3 rifle companies are moving to the new combat base, it is the



proper time for the battalion commander's command group to displace. The command group consists of the S3, the S2, and the supporting arms co-ordination center or operations center which consists of the artillery liaison officer, the air liaison officer, the naval gunfire liaison officer and any other supporting arms representatives which may be with the battalion. These people naturally bring their radio jeeps with them. More communicators will have to be moved forward — perhaps the radio relay set-up will displace at this time.

We now have the battalion command group moving forward under protection of the infantry and the support of the artillery which is still situated with the third rifle company in a tight perimeter at the old combat base location. We must, at this point, think ahead and prepare to provide ground supporting arms for the artillery when they displace. And so, with the forward echelon of the CP we find both the 81s and the 4.2s displacing forward.

Let us digress for a minute from the chronological displacement of the combat base and discuss the various possibilities of moving the mortars to the new combat base. First, if there are no 4.2 mortars attached to the battalion, it is imperative that the 81s displace with the forward echelon. They will likely be the only ground supporting arm capable of reaching out far enough to support the movement of the rear echelon. Second, if we have both the 4.2s and the 81s we are not bound to move them both with the second echelon. It is recommended, however, that if the 4.2s are attached, they move with the forward echelon, for they have the range necessary to support the movement of the rear echelon. The employment of the 81s in such a situation, however, is a



matter of personal opinion. They may be moved with the forward echelon; split between all 3 echelons, or split between the forward and rear echelons. No matter which method best suits your particular situation, one primary factor should be kept in mind at all times — you need a ground support arm that can support the artillery in the rear echelon as they move forward.

And so, the forward echelon of the BLT consists of the following:

- One Rifle Company
- Battalion CO's Command Group
- S3
- S2
- Air Liaison Officer
- Naval Gunfire Liaison Officer
- Artillery Liaison Officer
- Other Supporting Arms Representatives
- Runners and Staff Assistants
- Communications Personnel
- 4.2 Mortar Unit
- 81mm Mortar Platoon

Our rear echelon of the BLT consists of all other units of the battalion. They will displace forward when the forward echelon safely reaches the new combat base.

The remaining 2 platoons of weapons company are split into 3 sections and a section attached to each rifle company. Thereby we ar-

range for their efficient movement and at the same time give each rifle company the benefit of their fires and capabilities.

All of the above has been predicated on the premise of a foot movement with a small number of vehicles. What would be our situation if LVTs were available? The situation would be very similar. We still recommend that the movement be made by echelon, for we believe in the power and protection of supporting arms that can support us while we move. Another possibility is that our battalion might be moved by helicopters. Again we would move by echelon. Let me reiterate, this article speaks out strongly against packing up the battalion to move in one gigantic leap across country.

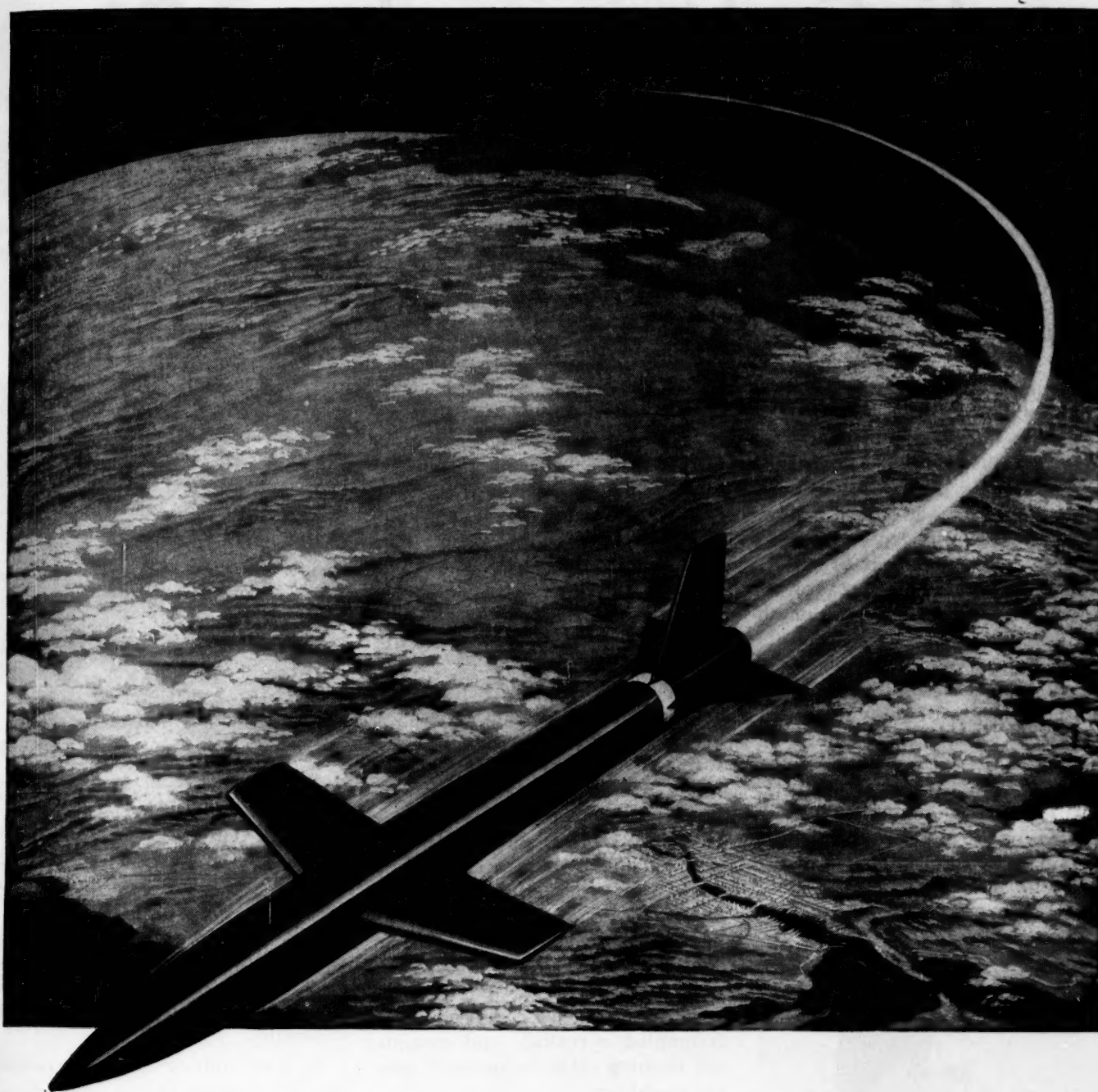
There is another aspect to this displacement problem. I believe that the first echelon, or advance party, stands an excellent chance of gaining the site of the new combat base by moving during the pre-dawn hours.

The disadvantage of moving over unfamiliar terrain at night need not necessarily exist if we plan properly. The company which will be with the advance party should, on the day before displacing, have some of its elements conduct extensive patrolling over the route to be traversed. These patrols will be the company's guide to the new combat base.

The disadvantage is further offset when one considers the advantages which accrue to the first echelon making the predawn movement. First, it obtains secrecy because darkness will help shield the movement. Second, because of the secrecy there is a greater chance of surprise, especially if we must forcibly seize the new combat base. Third, the advance party is in its new position during the first hours of daylight, which should permit the other 2 echelons to complete displacement prior to darkness.

There are undoubtedly many other recommendations, ideas and theories on how the displacement of a combat base should be made. This article does not purport to present the "school solution." On the contrary, it only hopes to stimulate some thought on the subject and from this thought perhaps the "school solution" will be evolved. US MC

Capt H. D. Fredericks has written many articles for the Gazette. Of these, most have evoked some sort of reader reaction. Capt Fredericks draws on his recent experience as a member of a regimental operations staff section and the course of instruction at the Junior School to present the problem discussed in this article. He is presently serving with the 9th Marines on Okinawa and has been selected for promotion to major.



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realistic training for **APIs**

... is necessary if they are to maintain their proficiency in providing ground and air commanders with vital intelligence

By MSgt Elra Ellis

✱ AERIAL PHOTOGRAPHIC INTERPRETERS, or the MOSs 0240 and 0241 are as important a part of our combat team as the rifleman or the aircraft jockey.

Shortly before the beginning of WWII, ColGen von Fritsch, Chief of Staff of the German Army, prophesied that the side having the best photographic intelligence would win the next war. At the end of WWII, Adm R. K. Turner stated that photographic reconnaissance and photographic interpretation had been the major sources of intelligence in the Pacific War, and that their importance could not be overemphasized. In Korea, photographic interpretation again proved in many instances to be the only means of obtaining detailed, accurate and timely information regarding the enemy and his terrain.

Aerial photography can be used to collect information from otherwise inaccessible areas. This is perhaps the most important military advantage. The photograph is a permanent record of the vast amount of detail within the camera's field of view.

The interpretation of aerial photographs is the responsibility of a relatively small group of specially trained individuals. Their job is to understand the nature of significant intelligence information and, from this understanding, to identify, collate, evaluate, report and disseminate as may be appropriate. This appears to be a straightforward job, but the vastness of the range of knowledge required makes photographic intelligence complex work.

The interpreter must devote a great amount of time to study and practical experience if he is to maintain or improve his proficiency. To be able to do this, reference and training material is required, especially aerial photos.

The recommended procedure to accomplish a realistic and continuous training cycle for our API people would be:

- 1) Each battalion or larger size unit request aerial photography of all training exercise areas. The requesting unit would make overlays of its defensive area showing exact locations of gun emplacements and all camouflaged implements of war. The requesting unit would hold the overlays for a specified time, i.e. 4 months, then make distribution to each Division, Wing, FMFLant, Air-FMFLant, FMFPac, AirFMFPac and MARTCOM G2s for comparison of findings of the API people.

- 2) The photo squadron taking requested photos would make distribution of one print to each of the above commands in addition to the copies required by the requesting



activity. Prints sent to units other than requesting activity will be marked with the usual marginal data plus "API Training Photos."

- 3) The major commands receiving API training photo prints will produce enough copies to supply each of their own units having an API capability.

- 4) Each unit or command receiving API training photos would cause API personnel to interpret, annotate and prepare a photo interpretation report (see form below) and forward a copy to each major command listed in paragraph 1 above for comparison of the various commands' findings.

- 5) After overlays were received from the original requesting command, each API man could see what he missed or actually found. Commanders could see their camouflage and dispersion deficiencies, photo pilots would obtain realistic training and our API people would be kept active and alive with worthwhile training. We want the best riflemen available, so why not have the best API people available?



PHOTO INTERPRETATION REPORT
TRAINING

Mission Data.

<u>Type Photography</u>	<u>Mission No.</u>	<u>Date</u>	<u>Print No.</u>	<u>Focal Length</u>	<u>Altitude</u>	<u>Approx. Scale</u>
Vertical	7TRS-397	6Jul56	1-56	12"	5000'	1:5000

Locality: North of Tengan, Okinawa
Areas Covered: Prints 1-19 DT1436 to DT 1541
 17-23 DT1436 to DT 1739
Map Reference: AMS V 503 Okinawa 1:50,000 Sheets 6632 II and 6637 IV

SUMMARY:

This sortie was of good quality, but shadowy detail was poor due to the heavy overcast at the time of photography.

The coverage consisted of selected areas requested by G2, 1st MarDiv. Many items of immediate value were found.

1. The following items were extracted from Sortie 7TRS-397:

<u>ITEM NO.</u>	<u>PHOTO NO.</u>	<u>CO-ORDINATE</u>	<u>DESCRIPTION</u>
1	1-19	DT079411	2 Open emplacements, camouflaged AA or Mortar
2	5-19	DT135415	2 probable camouflaged arty pieces in ruins of house
3	7-19	DT032677	AApsn, covered emplacement and A/W posn in vicinity
4	15-23	DT174369	Vehicle park (occupied)
5	21-23	DT157402	Revetments, possible stores
6	22-23	DT103209	2 covered emplacements, probably mortars

JOHN L. SMITH
API Officer

Ground Tactical Analysis reports cover the interpretation of enemy installations and activities to the extent that they affect the ground tactical situation. As such these are the basic photo interpretation reports of the

ground forces. Ground tactical information may be presented on the findings of one sortie or mission in which case it will usually constitute an Immediate Report (as in the sample shown above); or it may include

the findings of a number of sorties flown over a particular sector in a period of time and thus constitute a Summary Report; or it may involve a detailed analysis of a sector and be presented as a detailed study. US MC



Suspended in Space

✦ IN THE DAYS of the *Chaumont* and *Henderson* it was required that a periodic inspection be held to see whether or not a Marine needed his shoes resoled. This inspection was accomplished by opening ranks and having one rank at a time raise the right leg to the front then the left. I took part in one of the above inspections at the old Pine Point Hotel Marine Barracks, NOB, Norfolk, Va. when the famous and late departed Louis Cukela (then Major) was inspecting officer.

It seems that one man had his right leg extended and the man on his right had his left leg extended (contrary to the idea of course) Maj Cukela gazed down the rank and hollered "Now who in zee hell is zee vice guy mit both feets in zee air!"

Capt J. J. Sullivan

When the Creases Cease

✦ AS PLATOON COMMANDER of the Base Patrol, MB, Pearl Harbor, I took great pride in the impeccable uniforms worn by my men. I strived zealously to set the example.

One morning at troop inspection I devoted a major share of time to the subject of military creases. There were too many cases where shirts were not up to par. I finally completed the inspection with a 5-minute dissertation on the fine art of pressing in the razor-edged creases, fore and aft.

Upon return to my quarters at noon that day my uniform-conscious wife greeted me with the comment, "Well, this the first time I've ever seen you wear a shirt with a military crease on the left side and none on the right!"...

Capt G. C. Martin

(The GAZETTE will pay \$10.00 for each anecdote published. Submissions should be short and pointed.)



OBSERVATION POST

NUCLEAR AMPHIBIOUS SHIPPING

☛ SAN DIEGO, CALIF.—Col Vance's article on *Nuclear Power and Military Transportation* in the October issue is fine—as far as it goes. I feel he is being overly conservative on his requirements under c) on page 49. His LST at 30 knots, 2,000 tons of cargo and 300 troops does not represent a real advance, except in speed and endurance, over the present LST.

Why restrict the new amphibious ship designs to LST? The new LSD-28 class has shown that this ship has tremendous possibilities for the future. It is already up to fleet speeds under conventional design, but its endurance, speed and size could be improved to the point where we will really have a ship worthy of the high-speed amphibious forces of the future.

The advent and future development of the vertical envelopment concept for future amphibious assault may take us into many places where the beaching of LST is either impractical or unwise. I am not saying that we should scrap the LST as it still has a future, particularly if it can be made to meet Col Vance's requirements. I am saying that we need a better amphibious ship to be the teammate of our future LPH (and transport seaplanes). This need can be met with a nuclear-powered, high speed, long endurance "super" LSD. This LSD can be simply a "souped-up" version of the LSD-28 class. It should be capable of carrying approximately a BLT. Retention of its wet-well characteristics will give it the capability of handling Col Vance's nuclear-powered 60-ton capacity LVT. Underway launching techniques can reduce its vulnerability in the objective area.

Such a ship could be used for carrying and landing a BLT of the future, an armored task force, or high priority heavy equipment and cargo. We have already accepted the BLT as our basic unit for unit separation. Why not plan a modern, high speed ship to carry this unit when landed over a beach, or to supplement landing elements when they are landed by vertical means? The day of the vertical envelopment for *all elements* of the amphibious assault is still a way off. It therefore behooves us to

keep the art of amphibious ship design, in which we have been the world leader, alive and well

We should look to the day when the amphibious force will be comprised of teams or task groups of LPH and "super" LSD can and should be the APA of the immediate future, and serve as a competent running mate for the LPH.

BrigGen A. L. Bowser

SHIP 'EM OVER!

☛ QUANTICO, VA.—Every year thousands of good, dependable, trained Marines leave us. The majority of these are "first-cruise" Marines. To replace them is becoming more and more difficult. Sometimes we must enlist men of lower caliber than we like. Enlisting and training thousands of new Marines each year is expensive and time consuming, and results in a large percentage of inexperienced men in our ranks. We try to re-enlist our seasoned Marines when their first "cruise" expires, but they still go. Why?

I think that one of the main reasons Marines fail to re-enlist after their first enlistment is ignorance. Ignorance of the true benefits a Marine career holds for them. Ignorance too, of their opportunities for personal improvement. This seems unreasonable when we consider the constant and prodigious efforts of Marine Corps, Post and Unit Re-enlistment Officers; but I believe it's true. Why? Because a vital factor is missing from our re-enlistment program—the personal touch!

By the "personal touch" I mean constant day-to-day interest in the future of each Marine. The *personal* interest of every officer and staff noncommissioned officer in the career of each fledgling Marine. Our Corps is noted for being a small, elite fighting organization; for the ties that bind each Marine to his fellows—personal ties.

But how do we go about the matter of encouraging young Marines to remain in our Corps? Do we show our personal interest? Maybe. We wait until 5 or 6 months before his enlistment expires, and then we "give him an interview." We send him to the re-enlistment officer, and sometimes his commanding officer; people he rarely knows.

They (strangers, usually) are expected to suddenly convince him, with facts and figures, that it is to his best interest to remain in the Corps. They are expected to do this in the space of a few, short, "interview" hours.

Unfortunately, the Marine concerned usually has a few ideas of his own concerning his best interests: ideas that he has conceived in the years before the interviews. He is flattered by the Marine Corps' sudden interest in his future—but not convinced. For years he has wanted an automobile, extra clothes, a wife, children, television—and couldn't afford it. His friends of high school days have those things. He knows that. He has checked jobs on the "outside" and finds that he can earn perhaps \$75.00 a week; the way he figures, he gets just about that much a month. Or, he may want to go to college; to improve his earning capabilities, or just because of a thirst for knowledge.

Whatever his plans and desires, they weren't formulated during the last 6 months of his enlistment. They have been taking form in his mind during his entire enlistment, and maybe before. It's true that he may not realize just what he intends to do when he "gets out." He may only have ideas and desires. He may not have formed these half-thoughts and wants into solid plans. But the feeling is there when re-enlistment time rolls around. And no matter what the re-enlistment officer has to say, our Marine accepts or rejects it on the basis of what *he* wants.

Well, all right. You say everyone knows this, and the Cordiner Committee is taking care of it. Let's be realistic. It doesn't make much difference *what* the Cordiner Committee comes up with. If *we* don't make our Marines *feel wanted*, and don't keep them constantly aware of the advantages of a Marine career, and don't show a *constant personal interest* in their future—our Marines will continue to leave us. They may regret it, but they will go, feeling they're doing the "right thing."

There is the problem: What can we do about it? Here's what I suggest:

1) *Talk it up.* Not sometimes, but *everytime* we have a chance. When a Marine talks about getting out to finish high school or go to college, take your cue. Tell him how he can complete high school in the Corps. Tell him how to go to college in the Corps. Offer to help him with his studies; *and do it.* Don't send him to the Educational Office, *take him.* It isn't easy to get started on education. He needs *your* help to get going.

If your Marine talks about a job on the outside, talk to him about his Marine future. Not sometimes, *everytime.* When he talks about money, *you* show

him how much he would have to make on the "outside" to equal what he earns in the Corps. Retirement? Show him how we will stand money-wise at the age of 38 or 40. Security? Show him how much insurance would cost that would equal the survivors benefits. Different duty stations? Help him pick a good one.

Won't this take a lot of your valuable time? Sure it will. But there is nothing more important to us than to have good, experienced, *career* Marines. Would you rather have your Marine leave and have to train a new one? Not I.

That's my first suggestion. My second suggestion is for the Commandant of the Marine Corps, and is designed to help us in re-enlisting our Marines.

2) Send a "re-enlistment kit," similar to the one provided re-enlistment officers, to all officers and staff noncommissioned officers. This kit must contain information to help us in our day-to-day re-enlistment efforts. It should contain:

a. A breakdown of figures comparing a Marine's income in each rank with the salary he would have to earn "outside" to have the same standard of living.

b. Educational opportunities in the Corps; both military and civilian schools, including cost and procedure for entry. (I know it's in orders.)

c. Opportunities for commissioning from the enlisted ranks. Yes, I've seen the order, have you?

d. Promotion opportunities. The honest facts; we don't gain anything by kidding ourselves about super-accelerated promotions.

e. Family and emergency aid, available through Navy Relief and Red Cross.

f. A *personal* message from the Commandant telling us how *he* thinks and feels about the re-enlistment program. Our Corps isn't so big that everything has to come from the Commandant in detached, third-person orders and bulletins. Besides, our present Commandant has shown on many occasions his desire to speak personally to us.

Before sending this kit out, the Commandant might well write a letter to all commanding officers telling them his *personal* views on the subject of re-enlistment.

If I seem presumptuous in making these suggestions for the Commandant's action, let me say that every Marine looks to the Commandant for guidance; and that in a matter like this, a personal message from him means far more than a directive originating in the hidden recesses of headquarters.

Do I think that these suggestions will completely solve our re-enlistment problems? No, but it will put the emphasis

back where it belongs; on *all* the officers and Staff NCOs. It will make our Marines realize that they really are "well off" in the Corps; and many good Marines will re-enlist because they *know* a Marine career is what *they* want.

Expensive? Not half so expensive as recruiting and training thousands of men each year. Complicated and difficult? Not *our* part; it just takes consideration and honest effort. Will it work? Only if *you* make it work. Is it worth the trouble? I think so.

Capt J. K. Parker



SGT MAJ SPEAKS

CHERRY POINT, N C—We are well aware of the deficiencies that exist between the staff noncommissioned officer and the command, and the staff noncommissioned officer and his subordinates. The only people to whom we can turn for help in this critical situation are ourselves. The staff noncommissioned officer, and only he, can alleviate this situation.

The question is continually asked, "How?" There are numerous answers to this question which I will delineate at this time.

First of all, when we are presented the warrant informing us we have been promoted to the staff rank, we assume certain prerogatives which include authority, prestige, responsibility and certain privileges. The 4 prerogatives mentioned above, work together as a team for our betterment. If we utilize the authority which we inherit with our warrant we will carry out our responsibilities and, in turn, receive the privileges and prestige that are commensurate with our rank.

What are our responsibilities? We are first responsible to our Commanding Officer, to live up to the faith and trust he placed in us when we were promoted to the Staff NCO rank. We must carry out our assigned duties and whatever other duties deemed necessary, so that the mission of our unit is accomplished. Secondly, we are responsible to our subordinates regarding their proper training for the accomplishment of our mission. When I mention training, I don't

mean technical training only. We have to properly indoctrinate the privates, privates first class, corporals and sergeants in the basic Marine principles such as military courtesy, neatness and bearing, leadership and command presence. Along with this we must take a personal interest in the men working directly for us; continually show them the confidence and trust we place in them.

Our responsibility does not end at the expiration of the working day. If one of our men gets into trouble after working hours or is confronted with a problem that requires advice and help, he should feel free to consult us at any time. One of the faults of the present day Staff NCO is that he too often shrugs off the problems of the junior men as being minor when they, in fact, are the paramount thoughts in that man's mind.

Now to the subject of our responsibility to the command. Our present day commanding officer, by virtue of the scope of modern warfare, has a multiplicity of jobs that he, as one individual cannot possibly administer. If we can relieve him of some of the pressure that is incurred by being commanding officer, such as the upkeep of barracks, maintenance of the aircraft, administration, keeping the troops informed, lessening of disciplinary cases by virtue of the Staff NCO asserting his authority; then we have upheld the true meaning of the Staff NCO warrant and are fully justified in claiming the privilege and prestige we rate.

The Staff NCOs of MAG-24 did an outstanding job in this respect on a recent TRAEX. I believe one of the reasons largely responsible for this was the fact that they worked and lived with our men 24 hours a day. The squadron commanders were free to carry out their assigned mission, that of training their pilots for combat. I fully realized, while in garrison, we cannot be with our troops 24 hours a day; but we can definitely impress them with the idea that we are available by either telephone or personal call at all times, if the situation warrants this action. We can stop in at his barracks frequently during off duty hours; take a check in his mess hall on occasion. All this makes our men feel someone has a personal interest in his welfare. If we know our men's problems first hand we can better cope with them and can more readily expect him to do a first class job for the Marine Corps.

Staff noncommissioned officers must not use these rockers to rock away the last 2, 4 or 6 years on 20. Let's utilize them for the purpose for which they were intended, getting the job done in the most expedient and efficient manner possible.

SgtMaj C. P. Gaines

passing in review

BOOKS OF INTEREST TO OUR READERS

At Last!

THE MARINE OFFICER'S GUIDE—

Gen G. C. Thomas, USMC (Ret), Col R. D. Heinl, Jr., USMC, RAdm A. A. Ageton, USN (Ret). 478 pages. United States Naval Institute, Annapolis, Maryland. \$5.75

As stated in the Preface of the book, *The Marine Officer's Guide* has 3 objectives:

"First, to introduce the Marine Corps to potential officers—that is, to describe the Corps, to give a general picture of the life and duties of a Marine officer, and to tell how one becomes an officer.

"Second, to advise and guide inexperienced officers, and to provide a stockpile of information about their new career—as one older officer put it, 'To include in a book, the things you spend your first 4 or 5 years finding out.'

"Third, to provide a source of Marine Corps reference material, at officers' level, for everyone—second lieutenant to colonel, Regular or Reserve, soldier or civilian."

The first work of its kind and scope written solely for and about US Marine Officers, the *Marine Officer's Guide* ably satisfies a long standing need. Before progressing very far into this publication, the thought occurs, "Why hasn't someone done this before?" Probably scores of officers have considered undertaking the task but were discouraged by the tremendous amount of research required and the endless hours of writing and rewriting involved in order to present this accumulation of facts in a readable, interesting manner.

That the authors have succeeded in this monumental task, after more than 3 years of effort must certainly have been because of their recognition of how valuable such a guide would be to the majority of the Officers' Corps. Even after 20 years, it is still easy to recall the many questions that arise in one's mind upon joining the Corps—the answers to which, until now, could not be found in a book or manual. Furthermore, the availability of a ready reference, containing a really excellent index, will certainly be a welcome addition to any officer's professional library.

Gen G. C. Thomas and Col R. D. Heinl, Jr. are an eminently qualified team for the preparation of a Marine

Officer's guide. Gen Thomas, retired, but called back to active duty in a top Defense Department billet, gives the book the benefit of his long and distinguished service in the Marine Corps, combined with a penetrating insight into Marine affairs—past, present and future. To him the Corps has always been not only his profession but also his hobby. Col Heinl's talented writing is well known to all GAZETTE readers and it is apparent that the great majority of the book was written by him. That he has succeeded in presenting the material in such an interesting manner is another tribute to his skill and imagination. RAdm A. A. Ageton is well known for a highly successful naval career and as the author of the *Naval Officer's Guide*.



It is obvious that the authors have achieved their stated objectives admirably and almost every chapter contributes in some degree to all 3 of these objectives. As an example, the chapter entitled "Officers' Individual Administration" will be of interest to potential and newly commissioned officers alike as well as to old timers who desire to refresh their memories or possess a handy reference. This chapter covers officers' records, promotion and precedence, retirement and separation, official correspondence and security, leave and liberty and identity devices.

As in all really interesting works, there is controversial matter to be found. While an obvious effort was made by the authors to follow the principle "that it is better to be general and correct, rather than specific and out of date," some "specifics" have crept in which are at variance with existing regulations. For example, the *Guide* admonishes "Never let your trouser belt overlap more than an inch" whereas the Marine Corps Manual states "... not less than 2 inches beyond the buckle."

Other "specifics" are at complete variance with the personal opinions of many experienced officers. Not wishing to take sides, it would nevertheless be interesting to know where dress buttons can be purchased that will respond to the *Guide's* instructions "To remove gold plate, dip buttons in nitric acid (rinse well) or buff them on a wheel." A regular contributor to the GAZETTE (who shall remain unnamed due to his age, rank and the fact that he learned the hard way) gave a new set of dress buttons the nitric acid treatment and was spared the trouble of "rinse well." It seems, to paraphrase his highly descriptive explanation of this phenomenon, that the acid not only removes the gold plate but also the plastic button under the plate. Furthermore, even if this were not the plastic age, there are many officers who feel that if the buttons were intended to be shiny, they would have been so manufactured.

However, as Gen R. McC. Pate states in the Foreword, "... in no book—not even this excellent *Guide*—can you discover exactly how to be a good Marine, or how to lead, and command the respect of, other Marines. That is up to you, and you alone, and must be learned in the field, at sea, and on the parade ground." Consequently, in joining the Commandant in endorsing the success and wide readership of *The Marine Officer's Guide*, it should be borne in mind that as its title states, it is a guide, rather than a regulation and, as such, is most welcomed.

Reviewed by Col W. K. Jones
Ed: Col Jones is now Commanding Officer of Basic School.

Another Grand SLAM . . .

PORK CHOP HILL—The American Fighting Man in Action, Korea, Spring 1953—S. L. A. Marshall. 304 pages, illustrated with maps and drawings. William Morrow & Co., Inc., New York. \$5.00

When Gen Marshall returned to Korea in the Spring of 1953, at Army request, he did so with the following mission: "to analyze our infantry line and its methods under pressure, to estimate whether troops are good or bad, to see what is wrong and right in our tactics and to recommend such corrections as are indicated."

Being a military man, as well as a military writer of repute, S. L. A. Marshall has solidified and preserved for us his accomplishment of that mission in 304 pages of sharp, soldierly writing.

These are not the words of the military historian who would tell us alone of how the great wars are won by the great men; these are the words of a man who would have us learn how, and possibly why, a given man acted a certain way in accomplishing, or failing to accomplish, his own mission in close combat with the enemy.

Whether the potential reader be a Colonel of Marines or a Fire Team Leader, there is much in this book for him. Not only was the author specifically requested to standardize the debriefing of even the newest and youngest of patrolling privates, but his advice on military matters in general was quickly heeded.

Why is this book, which states not once the word "Marine," a must for all Marines? Basically, because it answers the question of how the American character is continuing to meet the test of great events, of each doing his share when the "chips are down."

The author paints his word pictures for us in two broad parts. The first is some 200 pages dealing with the before, during and after of a few rifle companies in the defense of the titled hill during a remarkable 48-hour battle. The remaining 100 pages are replete with the blow-by-blow action of night patrols ranging from the sublime to the almost unbelievable.

One of these accounts, *Into the Alligator's Jaws*, appeared in the October 1956 issue of the MARINE CORPS GAZETTE.

There is not a page in this book that does not hold military wisdom for infantry, artillery, tankers, communicators, supply men; commanders and staff men. . . . Tactics, scouting and patrolling, leadership—it's all there. Examples galore of How to Do It and How NOT to Do It.

While this reviewer realizes that Marshall's *Infantry Operations and Weapons Usage in Korea, Winter 1950-51* and *Rommel's Infantry Attacks* are recommended reading for some 4,000 Basic School lieutenants each year, here is what should be the third of a truly terrific triumvirate! Recruits, FMF troopers, in fact, all Marines really owe it to themselves both professionally and for the sheer pleasure of reading this splendid combination of highly-trained newspaperman's facts and vastly-experienced militaryman's opinions. Gen Marshall was an 18-year-old second lieutenant in WWI, the ETO's Chief Historian in WWII and the Eighth Army's Infantry Operations Analyst in Korea, as well as a leading newsman and edi-

torial writer of *The Detroit News* for all the years in between and since!

This is not a many-told tale pieced together several years after the events occurred; Marshall saw and heard these particular men briefed before their patrols or company attacks, and subsequently debriefed them himself "before the survivors had been given rest or a chance to clean up."

Why can't two platoons or rifle companies use a double envelopment? Why is control so important? Why do we have to be so worried about passing the word to our troops? What's so special about a passage of lines? Why do they use that silly 5-paragraph combat order? Why are supply and communications considered so vital by the experienced military man? Why all this stress on physical fitness all the time?

If you've asked, or been asked, these questions in the not-too-distant past, and you haven't had much of a reply to offer or be offered, this is the book for you.

Reviewed by Capt W. J. Davis
Ed: This reviewer was formerly an instructor at the Basic School. He is now with the 3d Mar Div.



Today's News . . .

COMMUNISM AND NATIONALISM IN THE MIDDLE EAST—Walter Z. Laqueur. Index, appendices, footnotes and bibliography; 362 pp. Frederick A. Praeger, New York. \$6.50

This is a specialist's book, and a valuable one. The author has traced the development of Communist activity in the various countries of the Middle East from the beginning to a date which appears to be late in 1955. And if there is any pattern in this development, any continuity, it emerges only because of the meticulous scholarship of the author.

Almost the first thing which he undertakes to do—and succeeds in doing—is to demolish that old stereotype of Western thinking which says, in effect, that because a Moslem is a Moslem, it is impossible for him to become a Communist. The reason? It would be against his religion, by Allah. This placebo, of course, is patently absurd and always has been, yet it has been propounded with the utmost solemnity by innumerable lecturers, columnists and unre-

NEW BOOKS

The books listed below have been received recently by the GAZETTE for review. More detailed reviews of many of these books will appear in subsequent issues. These books may be purchased at the GAZETTE BOOKSHOP now. Association members who are interested in reviewing books should notify the Editor and Publisher.

THE CAUSE OF JAPAN—Togo Shigenori. Simon & Schuster, New York \$5.00

The author was Japan's Foreign Minister prior to and during the attack on Pearl Harbor. He returned to the same post in April 1945. This is the first authoritative statement in English of the Japanese side of the events which led to the war.

MEN OF THE WESTERN WATERS—Dale Van Every. Houghton Mifflin, Boston. \$4.00

This is the story of our first westward advance. It covers the frontier in the years between the battles of Yorktown in 1781 and of Fallen Timbers in 1794. An attractive format, with maps and illustrations.

KOREA, 1951-1953—Office of the Chief of Military History, Dept of the Army. GPO. \$2.50

The official Army history of fighting in Korea from 1 Jan 1951 through 27 July 1953. Many maps and illustrations. Paperbound.

CAPTAIN LITTLE AX—James Street. Lippincott, Philadelphia. \$3.95

A novel about the Civil War. Little Ax Trowbridge, 15, is too young for the Confederate Army so he organizes his own band of young irregulars.

STORMY LIFE—Ernst Heinkel. Dutton, NY. \$5.00

The autobiography of one of the world's foremost aircraft designers. Heinkel was instrumental in building German air strength for World War II.

ALEXANDER THE GREAT—Agnes Savill. Citadel Press, NY. \$5.00

Dr. Savill presents a concise and balanced assessment of Alexander's work and personality. She has made a minute study of his successes and failures as set forth by the historians of his own and succeeding centuries.

THE FBI STORY: A REPORT TO THE PEOPLE—Don Whitehead, Random House, NY. \$4.95

A book which accurately presents a mature appraisal of the origin, development and accomplishments of the FBI through almost 50 years of operations. J. Edgar Hoover wrote the foreword.

A DIFFERENT VALOR, *The Story of Gen Joseph E. Johnston, CSA—Gilbert E. Govan and James W. Livingston. Bobbs-Merrill, NY.* \$6.00

A full account of the Confederate commander who was enormously respected by his opponents but heartily disliked by Jefferson Davis. A selection of the Civil War Book Club.

SOUND OF THE GUNS—*Fairfax Downey. McKay Co., NY.* \$5.50

This is the story of the American artillery from its first major action at the siege of Louisburg in 1745 through the battles in Korea. It also traces the evolution of weapons and techniques through the modern development of the atomic cannon and the guided missile.

MY CONFESSION—*Samuel E. Chamberlain. Introduction and postscript by Roger Butterfield. Harper & Bros., NY.* \$6.00

An American soldier of fortune's description in words and pictures of his adventures before, during and after the Mexican War. A portion of the book, including many sketches by Chamberlain, appeared recently in *Life Magazine*.

PORTRAIT OF A STATESMAN—*Dennis Barnes. Philosophical Library, New York.* \$6.00

A portrait of Sir Anthony Eden, this not only traces the life of the British Prime Minister, but also presents the background of the major events in which he has played a part.

SPEAKING OF POLITICS—*Franklin Cary Salisbury. Vantage Press, Vantage Press, NY.* \$3.75

An analysis of politics from one person's point of view. The author gives his interpretation of present-day political ideas and definitions. Governor G. Mennen Williams, of Michigan, wrote the introduction.

THE QUARTERMASTER CORPS: OPERATIONS IN THE WAR AGAINST JAPAN—*Alvin P. Stauffer. GPO, Washington.* \$4.00

This is one volume of a 4-volume group that records the experiences of the Quartermaster Corps in WW II. It was prepared by the Office of the Chief of Military History, Dept. of the Army.

THE RED ARMY—*B. H. Liddell Hart. Harcourt, Brace, NY.* \$6.00

This internationally known military authority has prepared a comprehensive study of the Red Army which is divided into two sections: The Red Army, 1918 to 1945; The Soviet Army, 1946 to present. Many contributors have assisted the author in his detailed analysis.

formed experts for the last two decades at least.

Having done that, he sets forth a number of clearly explained reasons why the Communist theory is not easily received in the area under discussion. He points out that although it has made a degree of progress within the past few years, it has made such progress only as a result of long years of continuing effort.

Mr. Laqueur attributes this difficulty to a number of things which, in a curious combination, are peculiar to at least the Arab countries of the Moslem world. Some of these are the incredibly low standard of life, especially in Egypt, over a period of many centuries, which has debilitated the populace to the point where any sustained physical or mental effort is impossible; an obtuse guidance from the source and origin in Moscow (the completely incredible mess today is an excellent example here); and the fact that the clan or tribal background—and perhaps the feudal landlord system in nontribal areas—has never permitted the formation of the kind of political foundation upon which the party cell can easily be formed and be effective.

The author's explanation of why the various nationalist movements of the area assume a rather grotesque form is interesting and valid.

"There are certain prerequisites for such a development [i.e. a strong national movement]: above all, the ability to make a state a going concern politically, socially and economically—to provide a minimum of stability. In this task the ruling classes in the Arab countries have not succeeded."

The only contrast to this condition in the area is Turkey, and the fact of racial difference together with that of propinquity to Russia, may be the reason for success in that country.

The whole matter, in spite of Mr. Laqueur's clear and lucid writing, is a monstrosity involved and intricate one. The result is a book for careful study by one who is intensely interested in the subject. It is not light or easy reading.

Reviewed by LtCol J. L. Zimmerman

ED: A professional historian, the reviewer has had extensive experience in the Middle East.

The Great Question . . .

ALPS and ELEPHANTS—Sir Gavin de Beer, F.R.S. 116 pages illust; E. P. Dutton and Co. Inc., New York: \$2.75

Carthage today is a village near the entrance to the bay of Tunis. From it one obtains a sweeping view of the bay with the white city of Tunis at the far

end. Aside from the view there is nothing to recall the glory and power that once centered there. The traveller will find a museum where some devoted friars have placed upon public exhibition the fruits of their diggings—but, the final Roman conquest was so thorough that nothing stands as a clue to the grandeur of ancient Carthage.

If the traveller's approach to Tunis was leisurely he may have prepared himself for his visit by reading Gustave Flaubert's *Salammbô*. The title of the book is the name of Hamilcar Barca's daughter; the same Hamilcar who was the father of Hannibal. With this tale fresh in mind today's unimposing Carthage takes on new dimensions, and the little hill behind the village looks less bare as one recalls the luxurious summer homes of Hannibal's day. Yes, Carthage was once great, so great that she challenged Roman supremacy and the struggle to decide the issue spanned more than one hundred years and left its record in the three Punic Wars.

Perhaps the best remembered even in this exhausting conflict was Hannibal's crossing of the Alps. Carthage had lost control of the seas in the First Punic War (264-241 BC). However, she retained extensive territories in Spain. Hannibal's problem of destroying Rome was a difficult one and he decided on a most audacious course of action. He would attack Rome by crossing at Gibraltar, secure a base at Carthage and march the 1,500 miles into Italy.

Hannibal left Carthage sometime in May 218 BC with 38,000 infantry, 8,000 cavalry and 37 elephants. In late October of that year he entered the valley of the Po after having lost 18,000 foot and 2,000 horsemen on the march. The route that he took to the Rhone has never caused much speculation, but from there to Italy there has been a wide difference of opinion; a debate now some 2,000 years old.

In *Alps and Elephants* Sir Gavin de Beer sets forth, after long study, the route Hannibal followed from the Rhone to the Po. This is an interesting piece of research including references to the original texts of the voyage, and detailed considerations of what the weather, the flow of rivers and the positions of stars were in that long gone period. His extensive bibliography and well reasoned arguments should satisfy the most rabid detective fan; for this is in fact an entertaining and brilliant bit of detective work.

Sir Gavin de Beer is the Director of the British Museum of Natural History. He is a scientist by profession and claims history as his hobby. In the pursuit of his hobby the question of Hannibal's route across the Alps has

challenged him for some 25 years. It should come as no surprise, therefore, that his book is sound in thought and communicates to the reader the writer's enthusiasm on the subject. It is a refreshing addition to a military bookshelf.

Reviewed by LtCol V. J. Croizat

Ed: *LtCol Croizat is a student of military history and has just returned from a visit to the locale of this book in Italy and North Africa.*

A Doctor's Duty . . .

THE INVISIBLE FLAG—Peter Bamm
250 pages. The John Day Company,
New York. \$3.95

During the years 1941 to 1945 the armies of Germany and Russia waged war across the vast, forbidding, often cruel steppes and marshes of the Russian homeland. Following the ebb and flow of this titanic struggle were the standard-bearers of the Invisible Flag—the flag of humanity—whose task it was to minister to the wounds and illnesses of friend and foe alike.

Working in mud, snow, or dust, the German doctors and medical attendants developed a fierce pride in their accomplishments in caring for a back-breaking volume of casualties, and formed bonds of loyalty that enabled them to perform under conditions of indescribable hardship. Their rare moments of relaxation came as brief, startling silences in a continuing martial chorus whose initial theme was victory, but whose final stanza was defeat.

The book should prove extremely interesting to medical officers, Medical Service Corps officers, and Hospital Corps personnel whose duties at one time have been, or may in the future be with mobile field hospitals such as used by Army or Marine divisions. In addition, the book will be of interest to the general public, which is always concerned with the methods by which war casualties are resuscitated and evacuated.

The author often lapses into a somewhat disjointed style, narrating anecdotes which do not always contribute to his plot, but this can be forgiven in the light of the fact that war itself is disjointed.

Author Peter Bamm writes authoritatively from personal experience as a field surgeon who had traveled over 8,500 miles with the German armies, tasting victory, joy, exhaustion and defeat, yet never rejecting his responsibilities as a physician to all mankind.

Reviewed by Cdr T. H. Wilson, Jr., MC USN

Ed: *Formerly Commanding Officer of 1st Med Bn, Cdr Wilson is now at USNH, Oakland.*

Marine Corps Gazette • January 1957

THROUGH HELL AND DEEP WATER—VAdm Charles A. Lockwood and Col Hans Christian Adamson. Greenberg, New York. \$4.50

This is the account of the Navy's deadly submarine, USS *Harder*, under the command of Cdr Sam Dealey. Presented is the story of Cdr Dealey and the 6 patrols of the *Harder*. Adm Thomas C. Kinkaid wrote the foreword.

THE TESTIMONY OF THE SPADE—Geoffrey Bibby. Knopf, NY. \$6.75

Planned as a companion volume to *Gods, Graves and Scholars*, this book traces consecutively the movements and flowering culture of life in northern Europe from 15,000 BC to the time of the Vikings.

A HISTORY OF THE ENGLISH SPEAKING PEOPLES, Vol. II, The New World—Winston S. Churchill. Dodd, Mead, NY. \$6.00

This is the second volume in the author's projected four-volume history of the English speaking peoples. It traces the history of England from the time of the Tudors to the advent of William and Mary in 1688. A Book of the Month Club selection.

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